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CONTENTS

GENERAL SCIENTIFIC.

- Gastro-Intestinal Sarcoma 199
HYMAN I. GOLDSTEIN, M.D., Camden,
N. J.
The Treatment of Pneumonia 203
EDWARD E. CORNWALL M.D., Brooklyn,
N. Y.
Indoor Air and Out of Door Air 209
JACQUES W. REDWAY, F.R.G.S., Mt. Ver-
non, N. Y.
Tonsil Operations in Children with Es-
pecial Reference to the Sluder Method 211
IRVING W. VOORHEES, M.D., New York.

Established 1872

- Specialism and Skepticism 213
W. F. McNUTT, Sr., M.D., Byron Hot
Springs, Cal.
Our Winter Death Rate 218
JACQUES W. REDWAY, F.R.G.S., Mt. Ver-
non, N. Y.
A DOCTOR'S STORY.
Doctor and Patience (concluded) 214
HAROLD M. HAYS, New York.
SURGERY 217
EDITORIAL.
A New Contributing Editor 210
Music Versus Bolshevism 219
Demoralizing Tendencies in Present Day

- Practice 219
Two Practical Points in the Management
of Pyloric Spasm in Infants 220
The Unfitting of Medical Students for Prac-
tice 220
Mass Psychopathology 220
Orphans as Guinea Pigs 221
MISCELLANY.
Bernard Shaw on Hospitals 221
PUBLIC HEALTH 221
SYPHILIS 223
THE PHYSICIAN'S LIBRARY. 224

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Medical Times

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General Scientific

GASTRO-INTESTINAL SARCOMA.

HYMAN I. GOLDSTEIN, M.D.,

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Camden, N. J.

Report of Five Cases.

In another paper I discussed primary sarcoma of the stomach and included reports of three cases. In this paper I will review some interesting cases of gastro-intestinal sarcoma and include a brief review of the literature.

In a thorough search of the literature some time ago I was able to find 266 cases of primary gastric sarcoma—this number includes ten cases not recorded in the literature, which I collected from various hospitals and clinicians. I collected from the literature 65 cases of primary sarcoma of the tongue, 36 of the esophagus, 139 of the intestines, 18 of the appendix (including my own case), 16 of the gall-bladder, 59 of the liver and 19 of the pancreas.

Sweitzer and Michelson (1921) recently reported on primary sarcoma of the lip.

The author recently (July, 1921) reported on primary sarcoma of the tongue and esophagus in the MEDICAL TIMES and included a bibliography. The writer also reported a case of primary sarcoma of the liver and reviewed the literature on the subject in the International Clinics, Philadelphia, June, 1921, II, 31st Series, P. 73.

Douglas states primary sarcoma of the small intestine is unusual and reports a case. In the small intestine he states malignant growths are less frequent than in the large intestine, and sarcoma in its various forms is by far the most usual type of growth.

Douglas' case was a young Turk, aged 20; M. C. Admitted on July 1, 1911, to Bellevue Hospital, New York. Six weeks before, he noticed a mass in lower part of abdomen. Tumor grew and pain became worse. Tumor at operation found to involve coil of the ileum and the glands in the mesentery of the intestine. The tumor was adherent to the omentum. Lymphosarcoma.

Deaver and Ravdin reported recently a study of carcinoma of the duodenum.

The most complete report and analysis of cases of sarcoma of the small intestine are those of Moynihan, who reports forty cases submitted to operation up to 1906, and of Lecene (1907), whose article is the most exhaustive on the subject, and includes an analysis of 89 cases, both operative and non-operative. Since these statistics have been published, additional cases have been reported by Le Roy (3 cases), Fletcher (primary lymphadenoma), Scudder (malignant lymphoma, or lymphosarcoma), Munk (6 cases 1900-1908), Bondareff (2 cases), and Barling, Stern, Goebel, McGlinn, Anderson and Erdmann, each one case. Round-cell sarcoma occurs in 50 per cent. of the cases reported, spindle-cell and lymphosarcoma are the next most frequent varieties, while alveolar sarcoma, myxosarcoma, giant cell sarcoma, angiosarcoma, myosarcoma and fibrosarcoma are also reported.

Lecene states that circumscribed and diffuse single tumors occur twice as frequently as multiple growths.

The first symptom noticed is usually the presence of the tumor in the abdomen, or abdominal pains, or discomfort. Some abdominal distension, but complete obstruction is rare. Cachexia and anemia come on early. Ascites, or malena, is rare.

The primary mortality from operation is high—57 per cent. in Moynihan's series of forty cases, five deaths being due to recurrence. Bondareff states recurrence occurs in 95 per cent. of the cases of round-cell sarcoma, and reports one case without recurrence for three years, and Steinthal reports a case free from recurrence for three and one-half years, and a case of spindle-cell sarcoma free for four years after operation.

I wish to thank Professor Allen J. Smith, of the University of Pennsylvania for the privilege of reviewing the pathological and autopsy records of the University and for his permission to use the notes in the following case report and in cases IV and V.

Case I.

Secondary Sarcoma of the Stomach, Heart and Liver.

James B., white, male. Autopsy one hour after death. No

rigor mortis; great emaciation. Skin and sclera slightly jaundiced. On anterior surface of body were seventy-four subcutaneous tumors, visible, the two largest being situated on either side of the manubrium sterni (both approached the size of a medium sized apple); the rest principally situated in the axillae, along the inner side of the arms, over the surface of abdomen in both groins, on side of neck and a few on thighs. Posteriorly at the angles of right scapula was seen the scar of the removed original tumor and in its immediate neighborhood several small nodules, not, however, in the scar proper. None were observed in other positions posteriorly except in the fascias and between the muscular sheaths of the spinal muscle.

Thorax: The anterior mediastinum below sternum was seen a tumor mass of irregular nodulated shape about the size of a hen's egg. The pericardium contained about three ounces of effusion.

Lungs: Crepitant; apparently normal, but surface and parenchyma studded with numerous nodules, not exceeding the size of a pea.

Heart: Normal in size and weight, valves normal. Muscular tissues pale and flabby, and in anterior wall of left ventricle a tumor the size of a marble. Bronchial glands infiltrated and enlarged.

Abdomen: No effusion; peritoneum normal.

Liver: Enlarged, weighs 8 pounds. A large tumor mass involved the whole right lobe and partly the left and numerous nodes scattered throughout the rest of the parenchyma; many nodes protruded on the surface. Gall bladder and ducts normal.

Pancreas: Contained also three tumor-nodes of the size of marbles near the head.

Spleen and kidneys normal, except that the kidneys contained numerous small tumor-nodes.

Stomach: Dilated; mucous membrane showed profuse hemorrhagic erosions and anterior wall of stomach contained in serous coat about the middle, a tumor the size of a small walnut. Mesenteric glands enlarged and involved by tumor-masses. Masses of the new growths occupied also the fibrous tissues of lumbar plexus. On the left side the anterior crural nerve, about three inches from its origin, was surrounded by and passed through a tumor of the size of a marble.

Brain: Showed effusion in the cavity of arachnoid, otherwise normal. Spinal cord and rest of organs normal.

Examination of the tumor-masses showed that the new formations had the character of secondary growths, being all nodulated and mostly encapsulated. Consistency soft, many of them broken down interiorly, the majority slightly and some of them densely pigmented.

Microscopic Examination: Revealed the new growth to be a round-celled sarcoma; in many of the tumors the cells were quite large and showed an alveolar tendency. Those involving the lymphatic glands showed nearly cancerous character. The primary growth in this case was in the skin of the scapular region.

It may be safely said that in all there were over two hundred tumor nodes. Case I is taken from the Autopsy Records. Univ. of Penna., 1882—No. 7. Autopsy performed by Dr. Formad. Service of Dr. de Schweinitz, University Hospital.

CASE II.

Primary Sarcoma of the Appendix.

Case Report: Lena G., 25; white. F. H. negative. I saw her first on September 29, 1919, at 10 P. M. She said she was an inspectress in a pen factory. She was always very constipated and had "stomach and bowel" complaints for several years. She had swollen feet and legs several years ago; had measles, "rheumatism." Lost 23 pounds in the past two years, most of it during past few months. Her best weight was 123 pounds, now weighs 100 pounds. Had several similar attacks of "appendicitis," with severe pains, abdominal cramps and vomiting during the past 4 or 5 years. Present attack of "pain in the stomach" and vomiting began two days ago, and a physician diagnosed case as acute appendicitis. The vomiting was persistent and severe, the pain worse, abdomen distended and rigid, pulse rapid, temperature 100.5°. There was a peculiar fullness and distention in the upper abdomen, and marked pain and tenderness and rigidity very low down in the right iliac fossa. While the case gave all the appearances of a severe acute appendicitis with probable abscess formation and adhesions due to previous attacks of inflammation in this region, it also looked like a typical case of acute intestinal obstruction, with or without some acute inflammation, involvement of the right tube and ovary. I advised immediate removal to the hospital for operation, but patient and her family desired delay. Early the next morning I was urgently summoned. I found the patient in bad shape, with markedly distended and painful abdomen. She was removed to Howard Hospital, where Dr. Alfred C. Wood saw her

within two hours. Under ether anesthesia, Dr. Wood found the appendix diseased with a mass involving the appendix and the head of the cecum—the mass in the cecum could be distinctly felt, but was thought and hoped to be inflammatory in nature. Appendectomy was quickly done, as the patient was very weak, and cecum left untouched for the present. The gut was markedly congested and distended with gas, and forced outside of the incision. On searching for a possible obstruction, a thick band was found tightly constricting the gut low down in the right iliac fossa, and a foot of bowel was dark and quite discolored, the strip where the band was holding was nearly black and gangrenous; however, upon release of the band and the application of hot wet compresses, the color improved. As the patient was very weak, the distended gut was, with some difficulty, replaced and the wound was closed. Prof. Allen J. Smith made a report of lympho-sarcoma of the appendix. The mass in the cecum cannot be felt at present. This was probably inflammatory in nature, and probably not the same as the real tumor in the appendix. Eight months later the patient was able to do her work. She is still very constive, has no pains and feels "no masses"; has no cough or chest symptoms, no palpably enlarged lymphnodes. She weighs 100 pounds, and has some abdominal distention when "her bowels don't move for a day or two." Her mother, 53 years of age, recently had an attack of biliary colic and has had "gall stone trouble" for twenty years. On January 31, 1921, sixteen months after the operation, the patient is well and working.

Report of Specimen Examination (Dr. A. J. Smith):

Diagnosis: Lymphadenoid sarcoma of appendix.

Section of appendix in proximal, thickened, portion above the tube here of approximately 1 cm. in diameter, the thickening involving to some extent all of the circumference of the wall, but particularly that half next the mesoappendix, which is over 5 mm. in thickness (that of the opposite side being about 1.5 to 2 mm. thick). The lumen in the section is open, but compressed by the swollen side of the wall to a crescentic outline. Under low magnification (under a hand lense) the thickening referred to seems due to a fairly defined mass under the broken mucosa, apparently involving both submucous and muscular coats and extending into a thickened mesoappendix. With higher magnification this mass is found fairly sharply defined but not encapsulated, and to be composed of small round cells of lymphocytic type, not arranged with any special architecture, infiltrating the deeper tissues, but apparently partly limited by the overlying mucosa. At its borders the cells infiltrate the adjacent tissue of the submucosa and deeper coats; and in its extension through the wall it infiltrates the muscular coat irregularly.

The mucosa is relatively normal, broken at one or two points by artefact and not ulcerated; its glands of about normal size and showing a slight excess of goblet cells. Its follicles are large, solidly lymphocytic; and at its base throughout the circumference there is a continuous excess of lymphoid cells, suggestively extending from the lymphocytic mass above referred to. In the half of the wall not occupied by the nodule the submucosa is thickened, fibrous but loose, with the node showing a narrow zone of infiltration on each border into the coat. The same is true of the muscular coat and of the fibroserous tunic, but in the node itself the muscle can be traced, its fasciculi separated well by the lymphoid cells. The fibroserous coat is dense and slightly thickened at places, elsewhere thick and loose as from oedema; and throughout contains a scattered excess of lymphocytes.

There is a second section of a loose fibro-muscular tissue (smooth muscle) which is believed to have been part of the mesoappendix, which does not show the structure of intestinal (colon or appendix) wall. In this as well as the lymphocytic formation is massively infiltrated in part of the tissue, the rest of the tissue showing a loose, rich infiltration by the same type of cells and small foci of the same elements.

In studying this lymphocytic formation it is to be recalled that it has formed in one or more nodules, not encapsulated but with narrow zones of infiltration at the borders, with scattered excess of the same type of cells through practically all of the sections that it does not present the architecture of a normal or of an inflamed lymphnode, being without follicles, and sinuses; that the cells are contained in a delicate lymphadenoid reticulum. The cells are almost all of the ordinary appearance of small lymphocytes, but scattered among them are larger lymphoid examples, and that at places there is the appearance of elongation of those cells into spindle form and small fibroblasts as if some degree of organization were proceeding at such sites. There are, too, at places eosinophiles to be seen. The small mass is fairly vascular, the vessels of capillary type.

From the above data the writer is satisfied that there is a chronic inflammatory involvement in the changes of the appendix, but believes that the nodular thickening on one side of the

appendiceal wall is not of inflammatory origin nor to be a lymph-node occurring aberrantly in this situation, but by exclusion has come to the view that it is a *true tumor, a lymphadenoid sarcoma*.

Drs. Jos. McFarland, M. B. Hartzell, F. B. Lynch, and D. L. Farley examined the slides and confirmed the diagnosis of sarcoma of the appendix.

Case III. Multiple Sarcoma.

Mrs. Emma B., aged 72 years. White. Widow. In July or August, 1920, she noticed a small lump over the left chest wall near the sternum. Six weeks later, it began to increase in size very rapidly. The lump itself gave her no pain. For the past 6 months she has had pains in the left shoulder and chills in the left hypochondrium and left lumbar region. Some pain was complained of in September, 1920, down the thoracic spine and toward the front of the base of the chest, and around the abdomen in a girdle-like manner. The pains at times were very sharp, "like a tight-squeeze with hands pressed together." There was no headache and no dizziness, but occasional cramps in the legs.

When I saw her, September 29, 1920, she had a large round mass the size of an orange over the upper part of the left chest about an inch to the left of the sternum and extending outward for about 3 inches, toward the left anterior axillary line. She had an enlarged cervical lymph-node below the left ear. Many telangiectases were present over the arms, breasts, abdomen, left temple, and a few on the back. The thyroid was very slightly enlarged. She had a slight cough, but no blood-stained sputum. The right scapula more prominent than the left. Scoliosis present. On September 30, 1920, x-ray and fluoroscopic examination by Dr. M. K. Fisher, of Philadelphia, showed no connection of this neoplastic mass with a rib or the inside of the chest. Heart shadow normal, aortic arch, slightly dilated if any, and possibly, metastasis near the arch (?). Lungs were apparently normal except for an indefinite suspicious area in the base of the right lung.

Blood Wassermann-negative (on repeated tests). Blood pressure—S. 190, D. 100. (Auscultatory.) Heart—systolic (transmitted to the axilla) murmur heard at the apex and over the left chest. Lungs—apparently negative, except some impairment over the bases of both lungs. Urine—September 30, 1920. Many hyaline and epithelial casts present. October 1, 1920. S. 200-210, D. 100. Complaints of insomnia. 'Phthalein renal function test: 1st hour, 5 per cent.; 2nd hour, 15 per cent.; total for 2 hours, 20 per cent. 'Phthalein renal function test (second time): 10 per cent. first hour, and 15 per cent. second hour, total for 2 hours 25 per cent.

I made a diagnosis of sarcoma with metastases, and on October 10, 1920, she was admitted to the Hospital of the University of Pennsylvania, in the service of Dr. Alfred Stengel.

October 11, 1920. Blood urea—N = 16 mg. Plasma CO₂ = 59 vols. per cent. Plasma chloride = 6.1 gms. per litre. Blood: R. B. C. 4,100,000. W. B. C. 8,400. Hb. 85 per cent. Urine: Few hyaline and light granular casts. No R. B. C., few (40-50) W. B. C. No sugar, faint trace albumin; S. G. 1.020, triple and amorphous phosphates.

October 15, 1920. Blood Wassermann-negative. 'Phthalein output (October 11, 1920—15 per cent. 1st hour, 15 per cent. 2nd hour, total 30 per cent. 2 hours (intramusc.). October 15, 1920. Urine—faint trace albumin, no casts, no R. B. C., 2-5 W. B. C. S. G. 1.017, no sugar. October 20, 1920. X-ray of left kidney was negative; scoliosis and hypertrophic spondylitis noted. (Dr. H. K. Pancoast and Dr. Prendergrast.

She was sent home from the hospital, and I saw her again in November, complaining of much pain over the left base of chest (anteriorly) and over left hypochondrium, and she was unable to sleep on account of this severe pain, necessitating the use of veronal, and even morphin hypodermically. Before she left the hospital, Drs. Pancoast and Prendergrast made an x-ray and fluoroscopic examination of her chest and found evidences of metastases in lungs, and below (in the hollow) the aortic arch.

The patient was seen by Professor Alfred Stengel, and his assistants, Drs. O. H. P. Pepper, Kern, Cook, Barrett, Arnett, and Miller, to whom I wish to express my thanks for the assistance and the clinical notes obtained from the study of this case.

On December 21, 1920, the patient was readmitted to the Medical Ward of the University Hospital. December 23, 1920. Blood—R. B. C. 3,720,000. W. B. C. 6,600. Hb. 70 per cent. Polys. 83. Lymph. 12. L. M. 1. Trans. 4. Urine—trace of albumin; few hyaline casts; 15-20 W. B. C. to high P. F.; triple phosphates +; no R. B. C. 'Phthalein output 25 per cent. 1st hour, 10 per cent. 2nd hour, 35 per cent., total for 2 hours.

S. 185/D. 88. January 5, 1921. Blood Urea—N = 15 mgm. Plasma chlorides = 5.7 gm. per liter. January, 13, 1921. Blood: R. B. C. 3,200,000. W. B. C. 6,800. Hb. 65 per cent.

A large lymph node removed from the right side of the neck—below the ear, was examined in the Pepper Clinical Laboratory by Drs. Herbert Fox and David L. Farley, and they reported—"Sarcoma of the large round cell type."

Report: "Sarcoma, large round cell type predominating. Almost entirely cellular. Very little stroma. Lymphatic tissue practically replaced by new growth. Cells show large vesicular, hyperchromatic nuclei with many mitotic figures. Cytoplasm scanty and stains poorly. Certain open spaces through tumor roughly lined with tumor cells suggest marrow spaces, but this is not definite. Blood vessels poorly formed."

Drs. M. B. Hartzell, Fred. D. Weidman, and Allen J. Smith saw the slide and confirmed the diagnosis of large round cell sarcoma.

On January 21, 1921, Dr. H. K. Pancoast reported that the x-ray examination shows mediastinal metastases. Ribs not eroded. Diaphragm on fluoroscopic examination moves equally on both sides. Heart appears slightly enlarged (?). At that time the large mass in the upper left quadrant of the abdomen extended about 1½ to 2 inches below the costal margin and over toward the mid-line was quite firm and somewhat nodulous and tender. Aspirin and codein failed to relieve the severe pain in the region of this growth.

On February 7, 1921: Blood urea—N 19 mgm. per 100 c.c. blood. Total 2 hours 'phthalein 45 per cent. R. B. C. 2,970,000; W. B. C. 5,300; Hemoglobin 60 per cent. The patient died May 18, 1921. No autopsy was obtained.

Whether the sarcoma was primary in the thyroid, the upper left chest wall, or in the retroperitoneal glands, or elsewhere, will never be known. Primary sarcoma of the thyroid gland is very rare, as I have only been able to find about ninety-five cases in the entire literature. Secondary sarcoma of the thyroid is also quite rare, as I pointed out in my paper on "Primary Sarcoma of the Thyroid Gland" (1921). The probability is that the tumor originated either in the rib or the lymph glands, although a distinct hard tumor mass was noticed in the thyroid early in the case, affecting the *right lobe* of the gland, and cervical lymph nodes. I felt that there was probably sarcomatous involvement of the omental and mesenteric tissues and glands, and possibly also of the *stomach*. It is most unfortunate that the relatives absolutely refused to give their permission for an autopsy.

Case IV.

Secondary Lympho-sarcoma of the Stomach, Pancreas, Spleen and Liver.

Report of Autopsy of Case IV., white man, aged 54 years.

Pancreas, Spleen and Liver: Case IV, taken from Autopsy Records, Univ. of Penna., 1908, No. 118 (2134 Histological). Patient, John H., Service of Dr. Loux, Blockley Hospital; Autopsy performed by Dr. Howard T. Karsner, June 13, 1908.

Spleen: Weighs 2,180 gms.; extends 3 cm. below the costal margin in the anterior axillary line. Measured 26 x 17.5 x 9.5 cm.; shows slightly serrated edges, densely thickened and opaque capsule which is adherent to surrounding viscera; organ is mottled yellow, blue and red, the surface being slightly nodular. Cross section is made with increased resistance; and shows a surface mottled in the same general manner as the outer surface; underlying the external surface are large areas irregular in shape extending downward for from 1 to 4 cm., generally pyramidal in outline. These areas are firmer than the rest of the organ and show a considerably dryer cut surface than the rest of the organ and are penetrated through and through by an irregular yellowish gray network of apparently necrotic material. The remainder of the spleen is occupied by large pale yellow spots, bulging, not friable, masses averaging about 3 cm. in diameter and fusing in such a manner that no splenic tissue distinctly recognizable as such can be seen. Glands about the hilum enlarged and occupied by the same type of yellow mass.

Adrenals: Normal. No metastases in kidneys, lungs, and heart.

Liver: Weighs 1,600 gms.; measures 26.5 x 18 x 8 cm.; has a smooth, glistening, transparent capsule under which can be seen numerous grayish-yellow irregularly outlined slightly protruding nodules. Organ cuts with ease and shows a bluish-

brown, slightly bulging, bleeding cut surface in which can be found numerous nodules like those mentioned in the spleen, varying in diameter from 1 mm. to 1 cm. Lobular structure is well made out in uninvolved portion showing central area of congestion surrounded by pale gray peripheral portion which fuse to form a network.

Gall bladder is distended with granular free bile, mucosa normal, ducts patulous.

Histological Report.

Pancreas: Is fused with a mass of enlarged retroperitoneal and mesenteric glands which are involved in the same tumor process described above. The exact measurement cannot be made out, but it seems smaller than normal. When cut, section shows a lobulated appearance (usual) and in addition in the upper part an intermingling of smooth gray tissue with pancreatic nodules evidently a diffuse sarcomatous involvement of this organ.

Stomach: Measures 18 x 21 cm.; contains a large amount of green viscid fluid and shows the mucosa thin, softened and markedly discolored by green material. In the fundus underlying the mucosa are a number of pinhead, to small pea sized gray nodules covering an area about 3 cm. in diameter, in the middle of this area the mucosa is broken down, leaving an irregular circular ulcer with elevated, not undermined edges and finely mottled black and gray base.

Intestines: Duodenum and jejunum normal; ileum shows distinct thickening and bluish pigmentation of Peyer's patches throughout its entire length. Appendix measures 8 cm., is patulous throughout.

Gross section of the enlarged inguinal, retroperitoneal and mesenteric glands and pelvic glands, shows a generally bulging, grayish-yellow non-friable homogeneous substance and a tendency to nodular formation in the tissue. In the extreme grade of enlargement there is apparently a fusing of individual glands; in the lesser grade, adhesion without fusion.

Liver: Shows normally thickened capsule. Capsule of Glisson considerably overgrown. Slight proliferation of the bile ducts throughout the entire section, no association with the overgrowth of the capsule of Glisson. Marked infiltration with lymphocytes, arranged in a loose reticular network of fine fibrillar tissue, which appears to be a penetration through the capsule, but not encroaching upon the parenchyma. The peripheral cells of the lobules are swollen, granular, have lost outline, and show distinct obscuration of the nuclei. The nuclei where visible are variable in size, but generally sharply stained and vesicular. The central vein is moderately congested, congestion extending well out into the surrounding capillaries, and in a few places slight extension of the bile ducts. The epithelial cells of the blood vessels show the presence of numerous black and greenish black irregularly shaped pigment granules. Throughout the parenchyma region, generally within the peripheral cells are numbers of large vacuoles almost completely obliterating the cell, and pushing the nucleus off to one side and compressing it. Many of the central cells show well marked hemosiderin pigmentation.

Pancreas: Shows diffuse overgrowth of connective tissue, and diffuse infiltration with lymphocytes. The lymphocytes supported by a fine reticular framework of connective tissue distinctly infiltrating the lobules. The intralobular connective tissue is also increased throughout. The ducts show marked cloudy swelling and desquamation of the epithelium. The epithelium of the acini is shrunken, shows close approximation of rather poorly stained, vaguely outlined, almost completely solid nuclei. Vessels normal. Second section of pancreas shows the same features.

Stomach: Epithelium of mucosa has almost completely disappeared, except for the presence of some cloudy swollen acid cells. The tunica propria is diffusely infiltrated with enormous numbers of lymphocytes and distinct overgrowth and lymphocytic infiltration, as does also the muscularis and serosa. The larger blood vessels are moderately congested.

Section of Small Intestine: Shows complete disappearance of the epithelium of the mucosa and necrosis of the tissues of the tunica propria. Submucosa shows fibrous tissue overgrowth and infiltration with polymorphonuclears. The muscularis and peritoneal coats normal.

Case V.

Secondary Large Round-cell Sarcoma of the Stomach, Spleen and Liver.

Report of Autopsy of Case V., Mary C., white woman. Taken from the Autopsy Records of the Univ. of Penna., 1920, No. 59 (6404 Histological). Service of Dr. David Riesman, Blockley Hospital; Autopsy performed by Dr. John Eiman, Feb. 4, 1920.

General Statement: Old female, 5 ft. tall, and weighing about 110 lbs. Excessive amount of panniculus adipose tissue. Musculature poor; there is a superficial abrasion over the external malleolus, and superficial abrasions over lower one-third of tibia laterally measuring 4.5 x 6 cm., no edema, jaundice, wounds, scars or exanthema. Post-mortem rigidity is present; lividity of dependent parts.

Head: There is a tumor mass over the right side of lower jaw extending from behind the angle of jaw to line of facial artery, and from a point 2 cm. below zygoma to 4 cm. above the middle of the clavicle. The skin is not adherent to the mass; the mass is irregular, lobular and firm in consistency; it appears to be adherent to the lower jaw. Upper part of the mass is apparently continuous with the right parotid. Eyes: Right pupil measures 2.5 mm., left 3.5 mm., slight arcus senilis; media is slightly cloudy. Ears and nose contain no special features. Mouth: Most all teeth are missing, those remaining in poor condition. Over hard palate on right side is seen an irregular growth which projects a fraction of a cm. into the oral cavity; this growth is continuous with the large tumor externally. At the base of oral cavity on right side there is felt an irregular, somewhat lobular mass which surrounds the lower maxillary bone; this tumor does not spring from the maxillary, it being separated quite easily both internally and externally. The tumor is firmly adherent to the cervical vertebrae, which, however, did not show roughness nor erosion. The neck shows no enlargement of lymph or salivary glands. Section of tumor is yellowish, firm and has poor blood supply.

Abdominal Cavity: Is pendulous; fat is 3 cm. thick. Peritoneum is smooth, pale and glistening, no fluid. Right lobe of liver is 3 cm. below costal margin. Gall bladder is distended and projects 3 cm. below liver. Stomach is 8 cm. below costal margin in midclavicular line. The wall is smooth and uniformly thickened, and has the consistency of a solid organ like the spleen. The spleen is about normal in size and firmly adherent to the stomach, and in its usual position. There are dense, fibrous adhesions between the first part of the duodenum and the neck of the gall bladder. There are also adhesions between the gall bladder and transverse colon, and between the omentum and the spleen. Glands along the greater curvature of stomach are markedly enlarged, largest one measuring 3 x 2 x 1 cm. Height of diaphragm on right side to 5th interspace, on left to 5th rib. Bladder contains about 2 oz. of urine. Uterus is atrophic on right side. Left tube is free. Left ovary is senile. Right tube and ovary which is senile, are bound together by fibrous adhesions and are fixed to wall of pelvis. Retroperitoneal glands are enlarged.

Pericardium: Smooth, pale and glistening; contains 20 cc. of straw-colored fluid.

Heart: Weighs 300 gms., measures 10 x 8 x 4 cm. Two "soldier spots" measuring 7 mm. at apex on anterior surface. There is a marked increase of fat. Mural endocardium is pale, smooth and glistening. Heart muscle is pale and brownish-red, soft and flabby. Left ventricle averages 11 mm.; right, 5 mm. Aortic valve measures 7 cm., slightly atheromatous and numerous calcareous areas at base of calcification at bases and margins of both leaflets. Papillary muscles show increase of fibrous tissue. Pulmonary valve measures 7.5; tricuspid, 11 cm.; no gross lesions.

Spleen: Measures 14 x 6.5 x 3 cm., capsule is wrinkled; two notches anteriorly, firmly adherent to wall of stomach. Section is dark red. Trabeculae are prominent; follicles not distinct. Pulp is firm.

Sections were prepared and examined histologically from the following structures: (1) Tumor, (2) liver, (3) lung, (4) spleen, (5) parotid, (6) kidney, (7) heart.

Tumor (13 sections): Dense fibrous tissue in meshes of which are large, round, and spindle cells, which have no definite arrangement, which vary in shape, size and staining, and in which are blood sinuses and thin walled veins. One section shows two arteries completely surrounded by growth. The inner and middle coats of these show atheroma and calcification. In no case can the organ from which sections were taken be identified.

Liver: Capsule normal. Slight dilatation of hepatic veins and nearby blood capillaries. Slight increase of interlobular connective tissue. In two places there are small, ill-localized infiltration of large, round cells similar to those seen in tumor. These areas are close to interlobular structures. Liver cells show a little hematoxylin pigment, their outlines are not clear, but otherwise they are normal.

Lung: Pleura slightly thickened. Lung tissue shows dilatation of some air spaces with ruptured walls. Other spaces show oedema, infiltration of red blood cells, polymorphonuclears, and large endothelial cells in varying proportions. Some areas show areas of closely packed polymorphonuclears. Bronchi cannot be distinguished.

Spleen: Capsule absent. Great fibrous thickening of trabeculae. Pulp congested. A few small follicles are seen. Throughout are various sized areas of large round cells, similar to those in tumor.

Pancreas: Adherent to the stomach. Head shows several firm, whitish tumor nodules which appear to be extensions from growth in the stomach.

Stomach: Measures 16.5 x 10 cm., serosa is smooth and glistening, on anterior surface. Everywhere there are adhesions to it, omentum or neighboring organs. Wall everywhere except at pyloric ring is uniformly thickened, averaging from 12 to 16 mm. It is leathery in consistency. Mucous membrane shows superficial ulcerations over lesser curvature. It is covered with mucoid mats. The neoplasm is springing not from the mucosa, but from the deeper structure.

Liver: Measures 25 x 19 x 5.7 cm., edges are sharp; is firm; capsule smooth; on lower surface of right lobe are seen numerous nodules, ill-defined and whitish in color. Section has a pale nutmeg color; rather bloody.

Gall Bladder: Measures 15 x 5 cm., contains large and smaller stones. No metastases in gall bladder, adrenals, lungs, kidneys, intestines and heart.

I wish to acknowledge with deep appreciation my thanks to Professor Allen J. Smith for permission to review the autopsy records and to make use of the notes in these cases, and for his suggestions and assistance at all times.

Review of the Literature.

Primary myosarcoma of the esophagus with metastasis in the stomach and neighboring lymphatic glands was found in Howard's case.

In 1898 Brooks reported a case of sarcoma of the stomach and analyzed fifteen others from the literature. Howard found sixty-one cases on record.

Mintz (*Berliner Klin. Wochenschrift*, 1900, No. 32, reports a case of *primary sarcoma of the stomach*, in a man aged 30 years, who for one month had complained of eructations, pyrosis, tugging pains in the abdomen, and increasing weakness. Vomiting was rare. Appetite was retained. There was rapid loss of weight. The patient was cachectic and jaundiced. Hcl was absent, lactic acid was present in large amounts with Oppler-Boas bacilli and no sarcinae. A tumor the size of a fist was present in the pyloric region, with an ulcer of the mucosa 2 cm. wide. Metastasis found only in the testicle (left). The lymph glands in the lesser curvature were much enlarged, as also those in the hepatoduodenal ligament. The growth proved to be a lympho-sarcoma.

O. Melikians states sarcoma of stomach, according to the statistics from German clinics, forms 1 per cent. of all cases of gastric tumors. Melikians states it cannot positively be differentiated from gastric carcinoma. With sarcoma there may be vomiting, pain, anemia, enlarged spleen and lack of Hcl or only traces. Lymphocytosis is held by some to be characteristic for sarcoma of the stomach. In Melikians' case the tumor was diffuse, occupying the wall of the stomach from the cardia to the pylorus, the mucosa having been preserved. The patient was a man of twenty-five; he presented the above mentioned symptoms, but the course after the symptoms developed was very rapid, about two months. There was no vomiting until twelve days before death. The operation showed inoperable conditions and the post-mortem revealed that the sarcoma involved also the neighboring organs, the duodenum, gall-bladder, pancreas, transverse colon, diaphragm and mesentery.

Hesse sifts the literature on this subject, listing alphabetically 233 authors and devoting fifteen pages to tabulation of the different cases. Only about 1 per cent of gastric tumors are sarcoma, and a fifth of them develop at the pylorus, a fourth at the greater curvature. The sexes are equally affected; about 25 per cent. of the patients were under thirty. The

mortality after resection was 31 per cent. Only four cases are known of permanent cures after three to eight years, but on the whole the prognosis is by no means less favorable than cancer and spontaneous partial retrogression has been known in some cases. Arsenic should be given to promote this, and with inoperable tumors, or after section, the Roentgen rays and radium should be applied. In nineteen cases the gastric sarcoma was a metastasis. In eighteen others of the 181 tabulated, the diagnosis was probable but not certain.

Gosset reports the recovery of a man of 61 after removal of most of the stomach involved in a myosarcoma. He has compiled seventeen other cases, not including Zesas' list of 154, published last year. The later history is known of only eleven of the thirty-two patients treated by gastrectomy; these known to be living from three (3) months to seven years later.

Koettlitz reports a case of gastric sarcoma with chylous ascites and involvement of the pancreas. He compares this case with the few on record; Gosset's compilation in 1912 included only 171. As metastasis is rare and as the sarcomas are often pedunculated, operative treatment offers considerable chances for a cure. His patient refused intervention for forty-five days after the tumor and achylia had been diagnosed, and the growth then was inoperable.

MacCormick, A., and Welsh, D. A., reported two cases (1906). (1st Case) One in a thin woman, Mrs. R. K., Aet. 53—with a tumor that was first noticed two years before and at that time thought to be a movable cystic kidney or hydatid of left lobe of liver. It never caused pain, her appetite was good, and no symptoms referable to the stomach. Never had jaundice. Patient operated on February 16, 1906. The tumor was attached to the posterior wall of the stomach. There was no evidence of secondary growth. She recovered. Diagnosis, *Spindle-cell sarcoma*. It did not infiltrate into the mucosa. Only one spot $\frac{3}{4}$ " in diameter was eroded, by the inward pressure of the pedunculated growth. The growth arose from the posterior stomach wall and projected into the lesser peritoneal sac behind the great omentum and above the transverse mesocolon. This growth was therefore of limited malignancy.

(Second case)—Male, H. M., Aet. 62. A tumor detected in abdomen below the umbilicus, first noticed in September, 1905. Operated on May 13th, 1906. No secondary growth was detected. Part of the transverse colon and two-thirds of the stomach was resected with the tumor, and a gastro-enterostomy performed. Patient made a rapid recovery. The growth in this case also started from the posterior wall of the stomach and the main mass was external to the viscus. There was no ulceration of the mucosa. No enlarged glands were observed. The new growth (as in MacCormick's first case) could be definitely located in the submucosa, in which it grew and spread, separating the mucous from the submucous layers. Diagnosis—*Large Spindle-cell Sarcoma*.

(Third case)—Patient male, Aet. 40 years. The symptoms were entirely pulmonary, eventuating in gangrene. Ulceration had taken place from the interior of the stomach right through the growth. Spleen was gangrenous. One small nodule was found on surface of the liver, but not elsewhere. The

growth was situated on the posterior wall and greater curvature near to but not involving the cardiac orifice. Diagnosis—*Small Spindle-cell Sarcoma*.

Wilkinson made the examination, October, 1899, in this case.

Bird's Case lived 3 years and 4 months after the operation (performed in 1903), dying of large recurrence in the epigastrium. His health was excellent until five months before death. Tumor was of the spindle-cell type.

Hartz's case was operated on by Prof. E. E. Montgomery at Jefferson Hospital, Philadelphia. Occurred in a man 41 years of age. F. H. neg.—Hb. 85 per cent. R. B. C. 4,680,000; W. B. C. 25,000. Tumor involved anterior wall and lesser curvature of the stomach. The glands were enlarged. The pancreas and gastrocolic omentum were secondarily involved. Diagnosis: *Small round-cell sarcoma*. Patient died sixteen days after operation.

Hosch found 6 cases of gastric sarcoma in 13,387 necropsies. He collected 102 cases of primary gastric sarcoma.

Smithies found sarcoma present in only 4 of the 921 cases of gastric cancer operatively and pathologically studied by him.

Sherrill, in his case of hemangio-blastoma of the stomach, believes it to have originated from a previously existing ulcer, stimulated by traumatism (fall against corner of table.) Because the condition existed for six or seven years and without having advanced to greater size (kidney) leads him to conclude that it was a benign growth.

Mallory, in "Principles of Pathologic Histology," p. 370, says Hemangiomas "are often congenital and perhaps always arise from abnormalities of the blood-vessels, especially from vascular nevi. They are to be regarded as benign growths. They occur more often in the skin and subcutaneous tissue, but may involve liver, spleen, brain, muscles, etc."

Dr. Erwin V. Graff reported in *Wien, Klin. Woch.*, June 27, 1912, Pp. 1,005 and 1,006, a case of primary sarcoma of stomach with resection. Woman, 30 years, well nourished, ailing for three years. Married two years, no children. Lost some weight, and noticed abdomen getting larger past two years. Bowels regular. Tumor size of head, attached to greater curvature of stomach. At first thought to be large cyst or hypernephroma. A cyst ruptured during the operation. Spindle-cell sarcoma. Von Graff states since Virchow (1864), he found 154 cases of primary sarcoma of the stomach. He says the "primären sarkome des Magens sind nicht allzu häufig."

J. Garland Sherrill and *F. S. Graves* reported a case of Haemangio-Endothelio-Blastoma of the stomach before the Southern Surgical and Gynecological Association, December 16, 1914. Patient was a white woman, aged 31. She had one child and two miscarriages. Indigestion, marked anemia, and constant pain in abdomen—developed after a fall, striking the epigastrium against a corner of a table. Ailing for five or six years when, in 1914, the mass was the size of a kidney and freely movable. (Looked like right movable kidney.) Operation October 5, 1914. A reniform mass from the greater curvature of stomach near pylorus was found. Sherrill thinks this was a benign hemangioma.

Blake reported a case where he found a pedunculated adenoma at operation, which had produced an obstruction to the pyloric orifice.

Kammerer reported a case of a fibrous tumor, with resection of a good portion of the stomach, in a woman 53 years of age, who had complained of all sorts of gastric disturbances. Hemoglobin 40-50 per cent.

Gibson reported a case in a man aged 62, who had a pedunculated tumor that acted as a ball-valve intermittently plugging the pylorus. The patient made a rapid recovery after operation.

Benaky, of Smyrna, at post-mortem of a man aged 65, found the pylorus completely blocked by a submucous lipoma.

Pernices, in a man 75, found an egg size tumor which blocked the pylorus and caused chronic dilatation. A cherry-sized tumor was removed by Perrier, which cured the patient.

Wade discusses gastric polyps fully and arrives at eight conclusions.

Campbell, in his excellent review of "Benign Tumors of the Stomach" (1915), reports a case of adenopapilloma of the Stomach in the wife of a retired farmer, aged 51, Mrs. M. Moderate grade of anemia. Small movable tumor, larger than a pigeons' egg (papillomatous), was removed at operation. It was situated on posterior wall of stomach, near the greater curvature, four inches from the pylorus. Dr. Northrup suggested papilloma before operation. No evidences of metastasis. Dr. Warthin reported tumor to be a papilloma on an adeno-carcinomatous base.

Ruysch, in 1732 (according to Campbell), reported the only example of dermoid cyst that has ever been observed in the stomach. However,

Gray and *Nesselrode* reported a case of gastric dermoid tumor.

Sherren found 18 cases of polypoid tumors of the stomach attached to the outside (they are mesoblastic growths), and may sometimes be mistaken for ovarian tumors.

Wade reported a case of a large pedunculated fibromyxoma growing from the muscular coat of the stomach, found in the pyloric antrum.

Spencer reported a case of gastric fibroma in a nurse, aged 46 years, the size and shape of a large kidney. She had two movable kidneys which were fixed.

Fenwick states there are only a few cases of gastric myxomata reported.

Helmholz reported a syncytiomatous tumor of the stomach. The metastases travelled along the blood stream to the liver, lungs and spleen, and thus resembled sarcoma, but the metastases resembled carcinoma too, because they passed along the lymph channels.

Aneurysm may occasionally occur, and according to Rasmussen, Powell and Welsh, their rupture may produce fatal hemorrhage.

Pelares and *Bachlendorf* and *Castelir* each described a case of hydatid cyst of stomach, which is very rare.

A. Tilger, in 3,500 necropsies, found but fourteen benign tumors of the stomach.

In the Obuchow-Krankenhaus, in 7,500 necropsies, four cases of polyps of the stomach were found. In the Russian Hospitals Tilger found the percentage to vary from .007 to .04 per cent.

Vegeli, in 1908, reported one case of polyadenoma.

Brissard, *Norman*, *Menetrier*, have reported cases of benign tumors of the stomach.

Fibromata like myomata are usually found in the pyloric portion of the stomach, and are either single

or multiple. Thompson and Graham discuss fibromatosis of the stomach. Pedunculated adenomata are not uncommon and are usually attached to the stomach wall in the pyloric region.

Most of the myomata of the stomach are probably sarcomatous in nature. There are about fifty cases of these gastric myomata on record.

Lymphadenoma, lipomata, osteomata, myxomata, luetic gummata, may be found.

Hanser, Collier, Galland and Post and others, discuss the treatment of gastric (benign) tumors. Menetrier speaks of polyadenomes, polypeux and polyadenomes en nappe. Andral reported a case of this second group; Menetrier reported two cases. Hayem described the Brunerian adenoma (Barrington-Ward and E. H. Shaw, of London, P. 301, Vol. IV, Oct., 1916, *Brit. Jour. Surg.*)

Paterson considers that sarcoma forms 4 per cent. of primary neoplasms of the stomach. Aaron stated in 1911 that there had been twenty-six cases of resection for sarcoma recorded, with eleven successful results.

B.-Ward-Shaw's patient was a man aged 25 years, admitted to hospital 1/27/1916, complaining of indigestion for six years. Pain in epigastrium and flatulence after eating; constipated; very thin and extremely anemic. No tumor could be found on examination. Stomach contents—free H.Cl. present, no lactic acid, no mucin, total acidity 0.2 per cent, a few Boas Oppler bacilli and a few yeasts.

February 1, 1916, operation; a tumor size of golf ball and freely movable, attached near the pylorus. Several enlarged glands. Liver normal. The nodular growth was attached to anterior and posterior walls. The largest gland was not sarcomatous. Tumor is a round-celled sarcoma. No metastasis.

Redcliffe N. Salaman, reports two cases.

Ziegler, Hektoen and Riesman say very little, or only a line or two about stomach sarcomata.

"Lipoma and myoma are rare and of little importance; sarcomas are also rare," etc.

If we accept the histological and biological characters of lymphosarcoma as given by Kundrat, we must consider it as a definite, pathological entity. Kundrat's definition is that lymphosarcoma is a growth composed of lymphoid cells in a fibrillar meshwork; and either cells or meshwork may be in excess, giving rise to medullary or fibroid forms. Kundrat states lymphosarcoma may start in a follicle of mucous membrane, or a lymphatic gland, and infiltrates without restraint, differing from the leukemic and pseudo-leukemic growths.

Lymphosarcoma in an intestinal organ chooses the readiest paths for its further propagation, spreading in muscular and serous as well as by submucous coats, and never causing constriction. The secondary deposits are not true metastasis, because there is always a continuous chain of growth from one deposit to another. Kundrat's case was a lymphosarcoma, larynx affected (probably primarily).

Banti, in a support of his view that both myeloid and lymphatic leukemia is a true tumor development, a sarcomatosis, of medullary and lymphatic elements respectively—quotes a case where there was extensive myeloid infiltration of the serous coat of the stomach and intestines, besides the appearance of myeloid cells in the liver, spleen and glands.

Many intestinal growths have been described (according to Salaman) as lymphadenoma, which are

really lymphosarcoma. Salaman does not think that the intestinal tract is ever affected by lymphatic growths of true lymphadenoma type, while lymphosarcoma may affect the intestinal tract.

Andrews has written a carefully prepared article on the histological features of lymphadenoma.

Salaman's Cases.

Case 1—F. R., aged 42 years, died Oct. 22, 1902, stomach symptoms, heartburn, for a while, five years before, which improved. Was a grocer's assistant. Extremely thin and emaciated—a condition that started only seven weeks ago and steadily increased. Moullin, on October 15, 1902, operated on him. Stomach was of enormous size. Coeliac glands enlarged. Stomach wall very much thickened. The greatest thickness of the united mass of glands and stomach walls is no less than six inches. Many raised ulcers of the intestine. The coeliac gland mass had broken through the inferior vena cava. Secondary metastasis in the lung only (except the glands generally involved—including large sarcomatous lymph nodes at the attachment of the appendix to cecum and also the other lymph nodes of the intestine). Salaman concludes this case may have had its primary origin in the colossal sized coeliac glands, rather than in the stomach, and calls it a secondary lymphadenosarcoma. In Thursfield's case of undoubted local primary round-cell sarcoma of the stomach, the glands are not affected at all. Patient was three years and nine months old. Sick for three and one-half months. Marked anemia, but no wasting. Stomach was very much enlarged. The retroperitoneal and mesenteric glands were not enlarged at all. There was a secondary nodule in the kidney and in transverse mesocolon.

Morton's case showed sarcomatous infiltration of the whole stomach, and involved no glands, and was successfully removed, the patient being alive several years later. A lymphosarcoma, according to Salaman, called round-celled sarcoma by Morton.

Salaman classifies Török's case as a round-celled sarcoma, although Torok called it a lymphosarcoma. Brooks' case, following an old bullet wound of stomach, and a case in St. Bartholomew's Museum (specimen 1928), which Dr. Salaman mentions as showing a massive tumor projecting into the stomach from the lesser curvature (no enlarged glands), and was examined by him personally (Sections and Specimens).

Salaman also examined personally the sarcomatous stomach in Thursfield's case, and the specimens and sections of Perry and Shaw's two cases, which he classifies as lymphosarcoma of the stomach, Kundrat's type, putting them in the same list as Dock's, Pitt's, Cruvelhier's, and Coupland's, Pstrokowski's and Legg's cases.

Case 2—Salaman's Second Case is an almost typical example of Kundrat's lymphosarcomatosis, or diffuse lymphosarcoma. His second case, D. L., was a man aged 51, died April 9th, 1903. Clinical history only of two weeks duration. Muscular and mucous coats of stomach were affected. Wall was over one inch thick. No metastasis. This type of growth (Salaman) is not limited to the stomach for its origin. It may begin in mesenteric glands, or in the pharynx. These growths exhibit a tendency, once they have gained a footing in the intestinal tract, to spread along it, causing dilatation of the lumen.

In Newton Pitt's case, Kundrat's type lymphosarcoma, the growth spread continuously from cardia to the

second part of the duodenum. Enlarged spleen and general glandular enlargement in Pitt's case. But in the intestine there were numerous polypoid submucous growths, *whilst around the appendix was a mass of growth the size of an apple*. The lymph follicles and Peyer's patches were not involved in Salaman's second case, and he states the fact "they are in all cases but rarely so involved, would seem to suggest that lymphosarcomatosis is in reality an infective process, which spreads from its origin by the most direct lymph paths to other lymph stations, and that as the follicles of the intestines subserve the functions of the mucous membrane and not of the serous coat, they are not on the direct path of infection, and hence escape. Whatever may be the *causa causans* of lymphosarcomatosis, it is not one which at its inception affects all glands alike."

Since the Peter Bent Brigham Hospital (Boston) in 1913 opened its doors, only one case of primary sarcoma of the stomach was admitted. The patient was a woman aged 30 years. The liver was secondarily involved. She was operated on August 14, 1915.

Perry and Shaw, in their review of fifty cases of malignant disease of the stomach, at the Pathological Museum at Grey's Hospital, found only four cases of sarcoma, all of them round-celled sarcomata (Cases 45-48). They have no specimen of spindle-celled sarcoma of the stomach. They found the mucous membrane smoothly stretched over the growth and that the growth is for the most part in the submucosa and that the muscular coat is sometimes very much invaded. Two males and two females. Secondary deposits of growth were present in three of the cases.

Sidney Coupland reported a case of lymphadenoma of the stomach, also of mesenteric and retroperitoneal glands, kidneys, ovaries, thyroid, etc. Rachel S—, aet., 24 years, married. Admitted under the care of Dr. Cayley, 9/12/1876. Thin, anemic woman, very weak. Died October 4, 1876. She was greatly emaciated. The case was reported April 3rd, 1877. In the inner aspect of right thigh there was an ovoid tumor the size of a pigeon's egg. The isthmus and right lobe of thyroid were replaced by new growth. The anterior and posterior mediastina were full of lobulated growth. Beneath the pleura of each lung were some well defined nodules of the size of peas. Several soft tumors were found in the stomach. The liver and spleen showed no growths.

W. B. Hadden (1886) reported a case in a single woman, aged 53. She died February 7th, 1886. Her illness began six months previously. Patient had no vomiting. Globular tumor anterior wall of the stomach, close to lesser curvature. Hadden thought in some respects Dr. Silcock's case of malignant lymphoma of the mesentery, published in Vol. XXXV of Trans. Path. Soc., London, resembled his case.

McCormick and Welsh believe that Thursfield's case strongly suggests a lymphocythaemia.

Bird's (Melbourne) case was operated on by him in 1903. The tumor was of the spindle-celled variety. Patient lived three years and four months after the operation.

Brodowski's case (1876) was a myosarcoma of the stomach, with secondary involvement of the liver. The patient was a man aged 57 years. The tumor involved the greater curvature of the stomach and weighed twelve pounds. The man first noticed the

enlargement in the belly two years before, and his physician at that time thought it to be an enlarged spleen (tumor lienis chronicus); later, when it filled two-thirds of the abdomen, it was thought to be an echinococcus lienis. Prof. Kosinski diagnosed it as "dien Tumor des Netzes," on account of the history and the "rintersuchung von Flussigkeit," and he obtained fluid through an exploration puncture of the fluctuating portion of the enlargement. The patient felt relieved the next day after the puncture and breathing was easier.

Corner and Fairbank, in their paper on sarcoma of the alimentary canal, collected fifty-eight cases of gastric sarcoma, fifteen cases occurring under 30 years of age; twenty-nine cases between 30 and 60; eight cases between 60 and 80. Jaundice was present in only four cases, and ascites in eleven. Anemia, wasting, pain and vomiting were the most common symptoms.

Soltare, Fenwick, says, "A large omental tumor and a large nodular liver" are much more in favor of carcinoma than sarcoma. Males 26; females 29; in their series of collected cases.

R. E. Farr, of Minneapolis, reported a case of primary sarcoma of large intestine, in a man, A. S., aged 61 years. Ailing with gradually increasing obstruction for about twenty years. Never any bleeding. A small adenoma was removed from the face two years previously. Operation: resection and anastomosis. Recovery. Round-cell sarcoma of caecum, and ascending colon, with metastasis to neighboring lymph node (Robertson, Univ. of Minn.). There was an irregularly lobulated tumor mass at the ileo-cecal junction. The appendix (8 cm. long) was normal. Jopson and White found (*Am. Jour. Med. Sci.*, V. 122, 1901), twenty-two cases of primary sarcoma of the large intestine.

S. Goto (June, 1911) collected twenty-four cases of ileocecal sarcoma (exclusive of those of the appendix) and added one of his own, and five cases reported by Nothnagel, three by Baillet and two by Frank, making a total of thirty-two cases up to June, 1911.

Farr could only find three cases of primary sarcoma of the cecum, and ascending colon (1913). He states the colon is most apt to be affected in childhood.

A. Baer (June, 1911) was able to find ten sarcomas in 124 inflammatory tumors of the ileocecal region.

William Travis Howard, of Cleveland, found only eleven cases of primary sarcoma of the esophagus in the literature (1902). He adds a case of smooth muscle cell sarcoma of the lower end of the esophagus in a man, S. B., aged 51, admitted August, 1909, to Cleveland City Hospital. He mentions cases reported by Chapman, 1877; Targett, 1889; Stephan, 1890; Shaw, 1891; Rolleston, 1893; Albrecht, 1895; Ogle, 1896; Livingood, 1898; Gastpar, 1900; Stark, two cases 1900, and states that Perry and Shaw allude to two cases of esophageal sarcoma in their article on malignant tumors of the stomach. Howard's case had metastases to the stomach and lymphatic glands. Stephan reported a case of lymphosarcoma in the esophagus in a child 4 years old.

John McCrae (April 12, 1902) reports a case of round-celled sarcoma of the stomach, with secondary manifestations in the already adenomatous thyroid. He states that splenic enlargement occurs in many cases without involvement of the organ by the

growth. A large number of the reported cases are in patients over 40 years of age. That the lymphosarcomata are most diffuse, the myosarcomata and fibrosarcomata the largest, and the muscular layers are the commonest site. He further concludes that the lymph glands are the commonest site of metastasis; secondary growths are less common than in carcinoma. Apart from procuring the neoplastic tissue, there is no way by which, during life, sarcoma can be definitely distinguished from carcinoma of the stomach.

McCrae's case was a widow, aged 69 (Montreal General Hospital, Oct. 1, 1901). Lost flesh and complained of empty feeling in stomach. For twenty years she had an enlarged thyroid. She died on Oct. 19, 1901, autopsy three hours after death. The tumor involved the greater curvature and posterior wall of the stomach (toward pylorus); a hard, firm, raised, comblike mass, 12 x 4 cm. No ulceration of mucosa. Tumor involved lung, thyroid and lymphatic glands.

McCrae mentions another case of primary sarcoma of the stomach in the autopsy records of the Montreal General Hospital for 1899.

Haberkandt found three sarcomata in 207 pyloric resections.

Rosenheim states that sarcomata are not so rare as is supposed.

Manges states that Harlow Brooks informed him that in addition to the case which he published in 1898 he has since been able to collect three additional cases during nine years service at Bellevue Hospital, New York. Manges believes that uncollected cases may be scattered through the literature, and that he found an unreported case of diffuse gastric sarcoma in the Transactions of the London Pathological Society.

Logan Clendenning, of Kansas City, (1909) reports two cases of gastric sarcoma.

Case I—Case of Drs. James F. Trexler and Jacob Block. H. H., male, aged 33 years. Bartender. Married. Dr. Trexler saw the patient in 1900, because of a very large gastric hemorrhage. The day following the hemorrhage patient passed several tarry stools. Seen again October, 1903. Tall and thin, strong and wiry. Pain in thorax. Patient died ten days later.

Clinical Diagnosis: Pericarditis with effusion; left-sided pleurisy with effusion. Autopsy: weight 140 pounds. Lungs, pancrea, spleen, liver, kidneys negative. The lymph nodes at lesser curvature of stomach are distinctly enlarged. On the posterior wall near the lesser curvature, two inches from pyloric ring, is the tumor, three inches in diameter. Mixed-cell sarcoma composed of round and spindle-cells held in a loose, wide network of febrillary connective tissue. Numerous capillaries. The growth was evidently primary in the submucosa, invading the muscularis mucosae and mucosa, leaving the muscle bands and serosa more or less intact. The mucosa is almost entirely obliterated in the circumscribed area of the growth, only a few tubules remaining, and these at the periphery of the growth. The submucosa is extensively infiltrated. The visceral wall of the pericardium presents a metastasis of the growth. The blood vessels in the vicinity are filled with sarcoma cells and the fibrous tissues are considerably infiltrated. The cells present in general the same appearance as in the primary tumor.

Case II—Dr. J. W. Perkins' case, St. Margaret's Hospital, W. H., aged 58 years, male, 12/7/1905.

Six months ago noticed loss of appetite and distress after eating. Later, he began to vomit once or twice daily, about two hours after eating. Sometimes he vomited immediately. The pain after eating was relieved by frequent belching. Lost thirty pounds in four months. Costive feels as though there were some stoppage below the stomach. Anemic, sallow and cachectic. No jaundice. A large mass about the size of two fists is felt in the upper abdomen in the region of the stomach, extending over the splenic region. The mass is movable. Operation disclosed a tumor of the stomach involving almost the entire organ, and no effort was made to remove it. After death the stomach was examined. The stomach is enormously enlarged; walls greatly thickened, measuring at the pylorus two and one-quarter inches. The pylorus, though surrounded by the growth, is patent. The tumor extends along the greater curvature, lesser curvature, and posterior walls, as a lobulated tumor mass growing into the stomach cavity. The mucosa is generally smooth, but ulcerated in some places. Mixed cell sarcoma, with large and small round cells. Numerous capillaries in tumor substance. Growth is more strictly confined to the submucosa than in Case I, although the muscularis and mucosa are also involved. The superficial epithelium of the stomach is almost entirely gone.

Riegel's articles (in Nothnagel's Spec. Path. Band XVI) is a review of Schlesinger's article.

Finlayson's patient, three and one-half years old, is the youngest patient, according to Howard.

Since Howard's article, and up to the time of Clendenning's article (1902-1909) there have been, according to Clendenning, eight or ten articles on gastric sarcoma and ten cases reported; Oberst, Dobromyslow, Weinberg, McCormick and Welsh, each describe one case; Yates reports two cases, Manges three and Dalton one.

Norman Dalton's case occurred in a male aged 15 years. The symptoms were abdominal swelling and pain for three or four months. Autopsy showed a small round cell sarcoma of the stomach and lymph glands.

Yates' two cases were operated upon by Dr. A. J. Ochsner. The first was a large, round-cell sarcoma, involving the greater curvature of the stomach, three cm. from pylorus, in a woman 37 years. The second in a man aged 44 years—large spindle-celled sarcoma, pedicle from posterior wall of stomach. Seventeen months after operation he was well.

Clendenning states, from his study and review, the usual type seems to be a mixed-cell sarcoma composed of round and spindle cells lying in a connective tissue matrix of fine interlacing fibrils.

In Oberst's, Manges' third case, Musser's case, and in Clendenning's case, the vomiting of blood in a young individual made the consideration of a differential diagnosis between sarcoma and ulcer important. Pyloric stenosis occurs in only about 6 or 8% of the sarcoma cases. Gastric analysis is not of much help in the diagnosis.

(To be continued)

A saturated solution of baking soda, in full doses, frequently repeated, is the most rapid and complete antidote to corrosive sublimate, acetate of lead, copper sulphate and other soluble salts.

For the prompt relief of deep seated pain in the chest, stomach, abdomen or kidneys, apply flannel, wrung out of hot water and sprinkled with spirit of turpentine.

ON THE TREATMENT OF PNEUMONIA.*

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The author has had thirty years clinical experience with pneumonia and has formed some opinions regarding its treatment. He appreciated quite early the fact that nature, working through the ages, has evolved a method of treatment which is effective in a large proportion of cases, and that it is our therapeutic duty first of all to support loyally nature's method of treatment and to avoid doing anything which might interfere or obstruct its operation. He has never used any of the alleged drug specifics for pneumonia which have been recommended from time to time during the past thirty years, such as salicylic acid, quinine, creasote carbonate, urotropin and camphor; because the practicability of a specific drug bactericide for pneumonia, or, indeed, for any other disease due to general bacterial infection, has never been demonstrated, (although the case is different with plasmodial diseases). And he has never used symptomatic drugs in large doses for a quasi-specific effect, as has recently been done quite widely with digitalis, reviving the specific digitalis treatment of pneumonia which was suggested by Petresco some twenty years ago. The reason alleged for this use of digitalis in large doses at the beginning of an attack of pneumonia, viz, that it may prevent failure of the heart later in the disease, does not seem to him a sound one; for he cannot see how over stimulating (poisoning) the heart early in the disease can make it better able to stand strain later in the disease: such a proposition seems to him to violate two fundamental therapeutic principles, viz, to give symptomatic remedies only when needed, and to give them in the smallest doses capable of accomplishing their purpose. Certainly an overwhelming mass of favorable clinical evidence is required to compel serious consideration of such a radical therapeutic dogma. In regard to biological specific treatment, such a specific serum treatment, he is still in an attitude of hopeful waiting. Serum treatment is in harmony with nature's method, and we are continually praying for such a treatment; but the serum treatment for one particular variety of pneumonia which emanated from the Rockefeller Institute seems an imperfect answer to our prayers.

A plan of treating pneumonia which is definite but conservative, and which aims at helping nature both negatively and positively, has been published by the author on several occasions during the past eight years. Its main features are these.

Hygiene is specially regarded, and a good supply of fresh air provided; but the exaggeration of good ventilation into the "cold air treatment" is looked on as fad and dangerous; the extreme exposure recommended is unnecessary and inconvenient, and, if the patient's temperature is low, favors spread of the disease and complications.

The condition of the alimentary tract and of the heart are carefully looked after. A particular diet constitutes an essential feature of this plan of treatment, viz, one which is strictly lactovegetarian, fluid, restricted in protein and fuel to somewhat less than the minimum health rations, and supplies extra rations of alkalis, especially calcium salts. This diet in its fullest form consists of three pints of milk

diluted one-third with barely water or similar diluent, the strained juice of three oranges, two ounces of milk sugar, two drams of sodium bicarbonate, one-half dram of calcium chloride, and water sufficient to bring up the total fluid to 90 ounces or less. This diet is reduced to cereal decoctions, salts and orange juice, or to water and salts, if conditions in the alimentary tract threaten trouble.

In connection with the management of the alimentary tract appears what is, perhaps, the most distinctive feature of this plan of treatment, viewed in comparison with other plans of treatment in general use, viz, avoidance of routine catharsis. Cathartics or enemas are not given during the active period of the disease unless special indications for them appear: with the diet above alluded to it has been found possible to let the bowels remain unmoved for a week or more without bad consequences and with safeguarding against dangers which regularly threaten from the alimentary tract: as a rule the abdomen remains soft and flat, and tympanites is observed less often than when routine catharsis is employed. After the bowels move of themselves during the active period of the disease, and such natural evacuations seem less disturbing to the patient than artificially induced movements. If tympanites should appear the diet is reduced to barley water, orange juice and salts, and if the tympanites is considerable, a simple or *fel fovis* enema is given; and a simple enema is given to relieve the feeling of fullness in the rectum of which patients occasionally, though not often, complain. If the patient is seen very early in the disease and has not had an evacuation within twenty-four hours, a mild cathartic or an enema is usually given; and in children a dose of castor oil is regularly given early in the disease. The saline class of cathartics and calomel are avoided.

Stimulation of the heart is given according to a definite bult flexible program, purely for symptomatic support, and overstimulation is sedulously avoided, especially early in the disease: in the later stages, if the need for stimulation is great, it is given with more freedom, but with the limitations of symptomatic treatment in mind. The heart stimulant drugs used by preference are strychnin, strophanthus and caffein. The strychnine is given in doses of 1/60 grain of the sulphate every four hours fairly early in the disease, and usually before the need for stimulation has become urgent. The strophanthus, which is the main reliance for stimulation, is given in the form of the tincture, or, by preference, in the form of a reliable preparations of the active principle, strophanthin: of the tincture, the dosage ranges from 1½ minims to 3 minims, and of the strophanthin, from 1/1000 grain to 1/500 grain, given every four hours. The strophanthin is given by deep hypodermic injection or sublingually. Caffein in the form of the sodiobenzoate, given in two grain doses every four hours, forms a reserve stimulant, to be given in addition to the strychnin and strophanthin when they do not suffice. Rarely does the range of heart stimulation here indicated need to be exceeded; occasionally, however, extreme cardiac insufficiency calls for temporary increase of the dose of strophanthin to 1/250 grain, and in great emergency, for administration of a single dose of 1/100 grain, no more of the drug being given for twenty-four hours after. In the comparatively rare cases showing an idiosyncrasy to strophanthus, even when given hypodermically, digitalis may be used, but that drug is deemed generally a less effective heart stimulant in this disease

*Part of a discussion before the Greater New York Medical Association, Feb. 21, 1921.

than strophanthus, and more disturbing to the alimentary tract.

Other symptomatic treatment is given very conservatively. To relieve restlessness and pain early in the disease, poultices and even opiates are sometimes used, but opiates are generally avoided in the latter part of the disease, and especially near the expected time of the crisis, because the patient then may find it necessary to his recovery to keep awake and to breathe rapidly. Expectorants are never used, nor antipyretics. The fever is looked on as a constructive reaction, but when excessively and persistently high, sponging with tepid water is sometimes allowed. For delirium, constant watching and physical restraint are preferred to sedative drugs, although in exceptional cases the latter are sometimes given, but always with reluctance and misgiving.

Lacking an effective biological specific treatment for pneumonia, the author, with increasing experience, is more and more strongly convinced that this disease is one which should be treated with great conservatism.

INDOOR AIR AND OUT-OF-DOOR AIR

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"Experience shows that air which has traveled through lengthy shafts and special air chambers has lost its freshness and is liable to cause lassitude and a feeling of depression amongst those who habitually come under its influence. Chemical and bacterioscopic examination may demonstrate the purity of such air, but none the less there is reason to believe that, in such air, the vitalizing principle of really fresh air is diminished."

This quotation is taken from Kenwood and Parker's *Public Health and Hygiene*. The same opinion has been expressed many times concerning the artificial ventilation of school buildings and public auditoriums.

"After a dozen years of experience in planning and installing mechanical systems of ventilation I am forced to believe that the best system that has come to my knowledge is less effective than window ventilation in furnishing good breathable air to school rooms."

This is the opinion of an eminent air engineer. I am quoting in part from memory. I have not the authority to use his name.

"Illness from ailments due to bad conditions of air are more prevalent in buildings with intricate ventilation machinery than in our old-fashioned buildings where we depend upon open windows for fresh air."

This is the opinion of a veteran principal of a grammar school in a large city.

The conclusion derived from opinions expressed by those who have had experience with systems of mechanical ventilation is pretty well crystallized; generally it is in harmony with the foregoing quotations. The conclusion applies especially to any system of ventilation which forces air into a building but does not provide for the positive removal of vitiated air. But while there is general agreement as to the effect, all confess ignorance as to the cause.

Is something put into the air that detracts from what popularly is called "freshness"? The question in part may be answered affirmatively. Body emanations from the skin and lungs are put into the air of school rooms, theatres, and other auditoriums; so also is dust. Carbon dioxide usually has been considered the chief danger in air pollution. Normal air contains about 3.3 parts of carbon dioxide per 10,000 of air. The proportion is slightly greater at times when the air is comparatively still. The proportion is slightly less in sea air. In living rooms that are poorly ventilated the proportion may be twice as

great; in crowded theaters and assemblies it may be five or six times as great.

Perhaps the evil effects due to indoor carbon dioxide may have been overestimated in the past. The tendency at present underestimates them. Of one thing we may be certain; if the carbon dioxide of indoors, or any part of it, is derived from the heating plant it is pretty certain to contain carbon monoxide; and this gas is a very positive poison. Out of doors all life is adjusted to the normal proportion of carbon dioxide and its presence is quite as essential as the presence of oxygen. Plant life apparently could not exist without it; granting this hypothesis, carbon dioxide in normal air proportions is equally essential to human life.

Nowadays we are told that the excess of carbon dioxide in living rooms and school rooms is not harmful. If the truth of this assumption has been established, where are the vital statistics that prove it? As a matter of fact an assumption of the sort can be established in only one way, namely: by tests upon a considerable number of people who for a given period of time are breathing air which in condition and constitution differs from normal air in carbon dioxide content only. A search among medical records fails to discover the statistics of such tests. One may reasonably assume that a great excess—say, 18 parts per 10,000 of air—is harmful if the breathing of it is long continued. It is reasonable to assume that air containing not more than 6 parts per 10,000 of air is harmful, even though one spends two or three hours of each day out of doors. The point, however, is to express the measured results in terms that may be intelligible and useful. If such tests have been made, the statistics thereof are greatly needed.

Ozone certainly is not added to indoor air but one may suspect that it might quickly disappear in breathed air. Ozone is an exceedingly active form of oxygen represented by the symbol O_3 , normal oxygen being O_2 . The proportion in the air varies greatly. In normal country air the proportion is not far from 1 part per million of air. It is usually less in city air. In times of thunderstorms it may be formed in quantities so great that the odor is perceptible.

Whether or not the presence of ozone is a factor in the air which concerns human comfort and health is a matter yet to be learned. The bracing qualities that come with the northwest wind of a cold wave are not due to any excess of ozone; indeed, the proportion of ozone in the air of a northwest cold wave, the air of greatest health-giving, is very small. Moreover, there is neither more or less ozone in the air of a refreshing June morning than in the air of a sultry August afternoon.

The determination of a comparative ozone content of indoor and out-of-door air is necessary to form a conclusion of the effect of ozone. Quantitative determinations of ozone are not easily made; qualitative tests are easily made and elaborate apparatus is not required. A solution having the proportion of 4 grains of potassium iodide and 25 grains of starch to the fluid ounce of water is recommended. In preparing the solution one would better dissolve the potassium iodide in the minimum amount of water and boil the starch in the remaining water. The two solutions when mixed may be strained through muslin if necessary; the mixture is filtered with difficulty. It is most conveniently kept in a shallow, wide-mouthed jar which should be closely stoppered. Slips of unsized paper dipped into the solution may be

pressed between folds of old muslin cloth, or hung in the air saturated; exposure varying from three to ten hours is required. Ozone decomposes the potassium iodide turning the test paper blue. The sensitized slips of paper should be exposed, one in a living room, the other on a covered porch or in a thermometer shelter. The depth of blue in each case will enable one to determine roughly the difference in the proportion of ozone, indoors and out of doors. The oxides of nitrogen almost always present in the air will also reduce potassium iodide. Inasmuch as they act merely as oxidizers their action on organic matter does not differ from that of ozone.

The dust content of the air has been considered in previous articles in the *MEDICAL TIMES*. There is dust which falls, or "settles," and dust which does not. Out of doors, however, floating dust particles become nuclei of condensation and are brought to the ground with rain or with snow. Many of them are combed out of the air mechanically by rain or by snow. The dust of indoors is not thus removed. It remains *in situ* unless it is blown out through open doors and windows. The facts of the existence of indoor dust are well known. The effects are not. In theaters, school rooms and public buildings the content of floating dust is usually much greater than in the air out of doors.

In character, indoor dust possesses a variety of content that is not found in wind-blown street dust out of doors. In school rooms the combination of crayon, rough blackboard, and felt rubber contributes a load of dust to the air with which not even a Washoe Zephyr can vie. The most noticeable content of indoor dust in rooms in which many congregate consists of lint from clothing and epidermis worn from the body. The desquamation which follows certain diseases is recognizable; the skin particles are unlike those of scarf skin worn off by the friction of clothing.

To discover the difference which indoor dust produces on health, as compared with out-of-door dust is certainly a difficult problem. It is a problem, however, which soon or later must be attacked.

Investigation concerning the effects of the water vapor content of the air has been extensive. Ellsworth Huntington and P. R. Jameson working by different methods have shown that, with the temperature between 65° and 70°, the optimum humidity of the air indoors is between 60 per cent. and 70 per cent. Huntington has shown that a material deviation above or below these figures is followed by a noticeable increase in the death rate.

So far as the conscious self is concerned, the human body is much more sensitive to dryness of indoor air than to that of the air out of doors. When the humidity of the air indoors falls to 30 per cent. discomfort is apparent to most persons; and when it falls to 20 per cent. the sense of discomfort is apt to be positive. Moreover, if the air is so still that its motion cannot be felt the discomfort becomes severely oppressive. On the other hand, out of doors, a humidity as low as 20 per cent. is rarely noticeable, especially if the air is breezy.

Dr. C.—E. A. Winslow who has long been fighting for better air in school rooms once declared that during winter months, the air of most school rooms "is dry as that of a desert." Oh, oh, Doctor! The avenging Nemesis will follow hard on your trail for this dreadful libel on the good name of a desert. No well-behaved desert of repute can approach a mechanically ventilated school room with respect to dryness of the air.

The electric potential, or "pressure" of the air may or may not be a factor in health; but if comparative measurements have been made, indoors and out of doors, they have not been made known. One feature of importance, however, has been brought to light. When the potential is high bacterification is both rapid and active. I regret that I am unable to give the credit due to the discoverer; the fact, however, has been fully sustained. One is justified, moreover, in assuming that intensity of bacteriosis affects health. As a rule, the air potential varies with atmospheric pressure; it also varies as dry weather gives way to rainfall. It even keeps pace with the semi-diurnal barometric changes, the maxima occurring about 10:00 o'clock and the minima about 4:00 o'clock.

What may be the effect upon humanity of these changes is not known, but it is an interesting field of research. To ascertain whether or not the air potential indoors is the same as out of doors is one necessary aspect of the problem. An electrometer indoors and another out of doors is desirable, but not indispensable. Two inexpensive electroscopes for qualitative determination will indicate much to an observer; it will indicate with a fair degree of certainty whether a material difference between indoor and out-of-door potential exists. A study of the effect is a problem for the physiologist.

Ellsworth Huntington and Leonard Hill have shown the amazing effects of stagnant air indoors. In the United States there has been a tendency to build draughtless houses and within them to reproduce air conditions which, out of doors, are followed by a death rate rivaling that of an epidemic disease—namely, the summer hot spell.

More than thirty years ago, General Greely, then chief signal officer, and head of the Weather Bureau, called attention to the high death rate which accompanied the summer hot spell which is a period of stagnant, dust-laden air. A bank of high barometric pressure off the Atlantic coast—the "stranded Bermuda high"—checks the normal eastward flow of air. If the temperature over the eastern half of the United States remains fairly uniform, the pressure also remains uniform and there are no general movements of the air. Because of these conditions a gradual rise in temperature and a steadily increasing pollution of the air gradually follow. As a result, the death rate, especially in large cities, increases far above normal mortality. The increase is especially noticeable during the late hot spells popularly called "Indian Summers."

So far as living rooms are concerned the conditions in living rooms during winter are practically those of the summer hot spell. Nowhere out of doors is the air so still as in ordinary living rooms when the winter heating plant is in operation; and nowhere out of doors is the air so dirty. The result is measured in terms of human life. In most of the large cities of the northern United States the January death rate is about 50 per cent. greater than that of June.

From time to time the interesting question is propounded: Does sunlit air possess a radio-active, or a vitalizing property which is lost when the air is forced through long metal ducts after it has been in contact with the heating coils of a mechanical ventilation plant. Up to the present time evidence that out-of-door air possesses such a property is wanting; nothing to support such a theory has been discovered. Deep spring waters frequently are radioactive when fresh. They lose the property after they have been bottled. And if sunlit air possesses any such property

it may be safely assume that the treatment of artificial warming and circulation is sufficient to destroy it.

The fact still remains that a material difference in the therapy of indoor and out-of-door air exists; and it is equally certain that the facts set forth in this chapter do not explain it. The problem is one in which the physiologist and the meteorologist must join their efforts toward a solution. And each can teach the other something worth knowing.

TONSIL OPERATIONS IN CHILDREN WITH ESPECIAL REFERENCE TO THE SLUDER METHOD.

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Although complete removal of the faucial tonsils in children as well as in adults has been a well-recognized procedure for several years, the last word has not yet been said. While there are still many differences of opinion as to the proper technique, there is a seeming uniformity that total enucleation and not partial removal should always be done. The indications for operation scarcely need be mentioned here, suffice it to say that any diseased tonsil is a menace to health and should, therefore, be removed unless it can be shown that such removal would be dangerous to life. Moreover, the size of a tonsil has little or nothing to do with the question of operation, since a large one may interfere only through mechanical obstruction, and a small one, which can only be seen by retraction of the pillars with a blunt hook, may be a focus of infection for rheumatic, cardiac or choreic symptoms. School examinations have helped greatly in acquainting parents with the importance of the tonsils as foci of infection, and as a result, removal of these little organs has undoubtedly prevented a great number of ills which are prone to arise in early adult life as a sequence to this nidus of infection.

It has been pretty definitely agreed upon too, that adenoids should be removed simultaneously with the tonsils. This is, I believe, the routine procedure in all hospitals. It requires only a few additional moments and is highly important in clearing the nose where there is respiratory obstruction or tendency to colds and other infections referable to the respiratory tract.

As to the method of removal, there seems to be a growing tendency among many operators to discard the Sluder guillotine for dissection and snare. This is, I am given to understand, the case on Dr. Coakley's service at Bellevue Hospital, and at the N. Y. Eye and Ear Infirmary. The reasons advanced by those opposed to Sluder are,—increased bleeding, destruction of pillars, healing with large scar and recurrence of the growth.

To take up these seriatim I will begin by saying that in the hands of careful operators the objections are not well founded.

Bleeding should always be stopped on the table in any type of operation, and if the field is dry when the patient is returned to his bed there is little or no danger of hemorrhage, barring, of course, certain anomalous conditions, such as hemophilia or anatomical variations from the normal. If a "spurter" is seen one should grasp it with a special artery clamp kept ready in the armamentarium for that purpose, transfix with a ligature on a needle, and tie. If oozing is diffuse

some simple styptic on a sponge stick held in place by firm pressure for a few moments will stop it.

Destruction of pillars is fairly inexcusable if one sees just what he is doing, and it ought not to be necessary to say that no removal should be done unless the entire field is completely under the eye. If the anterior pillar is caught as the Sluder blade slides home, it is merely necessary to release it, draw the instrument slightly toward the operator and slide the blade home again, making sure that the margin of the pillar is free. There does not seem to be any real danger to the posterior pillars.

Healing with large scar is always the result of a wide wound area with laceration of circumtonsillar tissue. This can easily be prevented if the tonsillar bed is left intact, that is, if no muscle either in the pillars or superior constrictor be removed.

Recurrence of the growth is not always preventable, for there is a curious persistency of tonsillar tissue to regenerate. There is often some lymphoid tissue that is not tonsillar tissue in the strict sense, which may be seen as tiny tufts on the surface of the pillars after the growth is enucleated, but more often recurrence is due to what French of Brooklyn has called the "infra-tonsillar tonsil." This is in reality adenoid tissue at the base of the tongue, but it contains crypts which may be infected and give as much trouble as the original tonsil. Too thorough removal is not always attended with unalloyed success, as the new tissue which grows in to replace the removed tissue may contract and pull tongue and arch of soft palate too close together, or persistent pain may be troublesome for many months, due probably to division of the larger nerve trunks at the inferior pole. This is more common in adults.

To our way of thinking dissection with knives and blunt instruments with subsequent division of the pedicle by means of a snare is preferable only in secondary operations or where firm adhesions have made the line of cleavage indistinguishable and indeterminable. Dissection by any method is not without danger if no line of demarkation can be made out, because it is impossible to tell which is tonsil and which circumtonsillar tissue. Stretching of the tonsillar bed is not advisable, as the cavity left behind is so large that delayed healing and possible distortion are thereby favored.

Now as to the technique of the Sluder operation as carried out by most of the surgeons at the Manhattan: In the first place it differs in many important details from the technique used by Dr. Sluder in his demonstrations in New York during the month of June, 1921. The anesthetic employed by Dr. Sluder at that time was nitrous oxide gas only; we use the gas-ether sequence almost entirely. He does not use suction for the removal of blood; we do not enucleation under general anesthesia without suction and a field as nearly free from "low visibility" as possible. He depends upon his wonderfully developed sense of touch while engaging and removing the tonsil; we work by sight chiefly with touch as an auxiliary. He does not usually examine the field of operation to see if there be anything left behind, but studies the tonsil carefully to make sure that removal is complete; we pay little attention to the tonsil, but scrutinize the operated field with all diligence. Certain other differences obtain which are, perhaps, immaterial. I wish to emphasize that in the above parallel it is not my intention to draw an invidious distinction. We do not pretend to do a

better "Sluder" than the originator himself, but in operating upon from twenty-five to thirty-five tonsils daily a certain clarity and uniformity has been obtained which gives us the best results. It should be mentioned that the Sluder method is no fetish with Manhattan surgeons, for dissection and snare are practiced in all cases where the former is not deemed advisable; but it is only fair to say that this occurs in a small percentage. Many adults can be "Sluderized" as well as children. We undoubtedly have some recurrences; there is no such thing as 100 per cent. success, but they are few and usually appear to be the "working up" of infra-tonsillar tissue from the base of the tongue. Where this is seen after the Sluder enucleation it may be re-engaged with the guillotine or grasped with a tonsil fixation forceps and snared off. Surgeons are sometimes in error, I think, in mistaking the granulation tissue which fills in the tonsillar fossa after operation for tonsil tissue. Only rarely do the pillars stand out separately and distinctly when healing is complete. Usually they are indistinguishable from this new tissue which Nature throws out just as she fills in a bone cavity or other hollow space.

Just a word as to the alleged increase of lung abscess after the Sluder method. Whether there is an actual or merely relative increase it is impossible to determine at this time. It has been ascribed both to "Sluderizing" and to the suction-pressure apparatus. Neither of these is responsible alone. In fact, as to the latter, it is quite impossible to blow clots, etc., into the open larynx under the primary anesthesia which we use. Whatever gets through is aspirated when the patient is inhaling. Ether pressure and blood suction just about neutralize each other. Abscesses of the lungs come about most probably from inhalation of cheesy plugs when a tonsil is squeezed through the ring of the guillotine, but these plugs fall out almost as readily if the tonsil grasping forceps and snare are used. Suction of the crypts after the method of Hurd might be worth while preceding every enucleation by whatever method.

13 Central Park West.

SPECIALISM AND SKEPTICISM

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How much specialism has contributed to skepticism or skepticism to specialism, we leave for others to determine. They would seem to go along together. We realize that specialism in medicine in cities is the order of the day and that skepticism has invaded every department of medicine. The old family physician, who had a special remedy for every special disease, is no more regretted only by his grateful patients. The specialist and skeptic would seem to make the practice of medicine a science, which it is not. They seem innocent of the fact that they are largely responsible for the hodgepodge that the practice of medicine is in today. Specialism has made the treatment of disease very costly in time and money.

No doubt this feature has driven many to Christian science, chiropractics, naturepaths, neuropaths, etc. Skepticism has no place in their nomenclature. They are good actors. They force absolute confidence, to their own and their patient's advantage. If they were as ignorant of psychology as they are of medicine there would be no quacks.

If the greatest study of mankind is man, no doubt over-specializing is curtailing the study of diseases of man as a whole. No sooner has the medical student graduated than he takes up a specialty. He may, as some do, serve a term in a special hospital, where the diseases of a small part of man is studied and treated. He then confines his practice to his chosen specialty and soon becomes a mere specialist rather than a physician confining his practice to a specialty. He has not been taught that any organ diseased may effect the whole body. Nor has he been taught the influence of the mind in the practice of medicine. The great anatomist and scientist, Dr. John Hunter, said "every part of the body sympathizes with the mind, for what ever effects the mind the body is effected in proportion."

To understand the diseases of any one organ of the body it is necessary, as far as possible, to have a knowledge of the physical and psychological whole man. If man were a machine, an inanimate thing, with microscope, X-ray, stomach tube, systoscope, chemistry, etc., the practice of medicine would long ago have been a science. But man is a living, thinking, human being, endowed with a conscious and unconscious mind. The wise physician will select with confidence, guided by experience, such a remedy or remedies as will apply to the particular case, with the object always in view of giving physical and psychological relief to his patient. The skeptic says that is not scientific. Granted it is only common wisdom, without which the physician had better throw physic to the dogs and seek a more literal unimaginative occupation. Imagination is essential to every art.

The specialist who finds a routine system brings him practice often thinks no further study is necessary. Routine practice is unintelligent. Each patient is a law unto himself and requires to be treated as such, whether he be suffering from pneumonia, iritis or is a *malade imaginaire*.

There is no lack of ability in most of our specialists, but a sad lack of training in many of them. They have not been taught the importance of study of the unity of man, nor the relation of diseases of other organs to organ or system on which they specialize. Nor have they had any instruction on the influence of the mind in the treatment of disease. Nor have they been taught to observe and adjust their own clinical experience to the results attained. Until they learn this important lesson specialists will continue to treat the disease in lieu of treating the patient, as every successful physician and specialist has learned to do.

Herein is the great advantage of team or group work in the diagnoses of obscure cases. If the chairman of the group be a capable and experienced physician or surgeon, as the case may be, otherwise some one of the specialists who has not been taught the unity of the body may, in the classic language of our Admiral Benson, "pull the wool over his eyes." A consulting surgeon said to the writer that he had made a specialty of surgery for twenty years and that all he now knew of the practice of medicine was to order a dose of castor oil. From such a surgeon may the good Lord deliver us, and from all such specialists.

The specialist who is most likely to mislead the general physician when called in consultation is he who is very well read in his subject, but knows little of the diseases of other organs and knows or

cares less of the psychology of the patient. Perhaps specialism is not conducive to the study of psychology, a knowledge of which is so important to the general physician. Be that as it may, as a rule the specialist treats the disease; the successful physician treats the patient.

The writer has been in general practice of medicine and surgery for many years and has had many consultations with many specialists. He holds no brief for the general family physician and surgeon. Though he has great respect and sympathy for the country physician who so successfully treats such a great variety of medical and surgical cases, without the advice and assistance of the specialist, it is only the country physician who is obliged to study and treat the "altogether."

The writer means no disrespect to specialists or specialism; on the contrary, but from experience begs of specialists that more of them would study the physiology, pathology and psychology of man as a whole, that they would visualize and study "the altogether." The writer has great respect for and confidence in the specialist who practiced general medicine and surgery for ten or fifteen years before taking up his specialty. The relationship of diseased organs and the functional derangement of perhaps distant organs to the diseased organ is some times intimate, often obscure, not always capable of being demonstrated and not by any means well understood.

The writer would say, especially to the young family physician, he may meet in consultation the specialist who has great facility with and very skillful in the use of words, who will solemnly assure the family physician that the obscure symptoms in question are nurely reflex and may expatiate learnedly on reflex action. The word reflex often renders the obscure symptoms as clear as mud and impresses the young physician with the fact that words have their uses.

OUR WINTER DEATH RATE.

JACQUES W. REDWAY, F.R.G.S.,
Mount Vernon, N. Y.

A statement to the effect that the January mortality is 50 per cent greater than that of June has been questioned as to accuracy. In the registration area of the United States the mortality of January is about 80 per cent greater than that of June; indeed, for 1919 it is nearly double that of July. Perhaps a comparison of the two coldest and the two warmest months would be a more instructive exhibit of the relation of climatic conditions to mortality. The first of the two tables includes the whole registration area of the United States—that is 33 states and 81.1 per cent of the population of the United States. In every instance the January death rate exceeds that of any other month. The mor-

FOR THE REGISTRATION AREA OF THE U. S., 1919.

	Total.	Jan.	Feb.	July.	Aug.
ALL DEATHS	1,096,436	146,131	109,082	78,380	74,760
Tuberculosis	106,985	11,081	10,081	8,603	7,828
Pneumonia	105,213	22,996	15,951	2,604	2,408
Diarrhoea	37,044	2,343	2,173	6,752	7,460
Influenza	84,113	38,679	17,419	591	401

tality in many instances is lower for the same disease in September than in July or August. This is notably the case in tuberculosis which totals 6,987 deaths in September and is greater by 841 in August. It is pleasant to note that the death rate from tuberculosis in a period of twenty years has decreased from 202 per 100,000 of population to less than 126 per 100,000.

The rate of mortality in the registration cities of the United States shows about the same proportion as to season as is shown in the country at large. The first

ALL REGISTRATION CITIES, 1919.

	Total.	Jan.	Feb.	July.	Aug.
ALL DEATHS	564,951	73,214	56,851	39,664	38,133
Tuberculosis	54,594	5,721	5,221	4,314	3,940
Pneumonia	61,736	13,312	9,778	1,626	1,503
Diarrhoea	25,490	1,473	1,375	3,551	4,300
Influenza	33,546	15,072	6,938	228	166

three diseases are always with us. Influenza visits us as a pandemic about once in thirty-three years. Asiatic cholera is not included in the foregoing. It is now epidemic in Russia, but it is not likely to become pandemic. For the remaining months the deaths in the whole registration area are: March, 114,413; April, 95,000; May, 86,300; June, 75,251; September, 72,788; October, 76,940; November, 78,975; December, 88,369. In all registration cities; March, 60,291; April, 49,531; May, 44,811; June, 38,309; September, 37,192; October, 39,515; November, 40,787; December, 46,653.

Pneumonia and diarrhea may be taken as striking types of diseases governed very largely by climatic conditions. Reasons therefor may be surmised, but no reason is known with positive certainty. One fact bearing on the subject is worth considering: The death rate among out-of-door workers both here and in western Europe is far lower than among indoor workers—in many instances about half as great. Let us make an empirical comparison. Humanity spends a much larger proportion of time out of doors in summer than in winter. During the summer months, too, windows are kept open day and night. Not only is the air indoors fairly clean, but it is also in motion; and air movement is quite as important a factor in bodily comfort as is temperature or humidity. In winter, humanity lives in close rooms and in stagnant air, the humidity of which is about half that which comfort demands as an optimum. Out of doors Nature makes these conditions deadly; indeed, no other climatic condition is more intolerable than stagnation of the air; and nowhere out of doors does the stagnation of air approach that of indoors.

Doubtless other causes of the heavy winter death rate exist, but they are not matters of certainty. And could we have reduced the winter mortality of 1919 throughout the registration states to that of the summer months the result would have been the saving of 60,000 lives.

METEOROLOGICAL LABORATORY,

Medicine in Soviet Russia.

Sokolov states: "The Soviet system is based upon rigid centralization, and all existing groups have been placed under the control of the Department of Public Sanitation and Hygiene; the entire medical organization of the country is now in the hands of the State, and the development of bureaucracy has resulted in slackness of administration." After discussing various topics such as "Research Work," "Position of Medical Men," "Condition of Hospitals," he writes:

"The government has abolished open prostitution and regulated brothels, but this evil has merely assumed a different character; there are now more prostitutes than before although Petrograd doctors do not report any increase in venereal diseases."

"Parents are overworked and unable to bring up their children properly; the lack of control is having the most serious results; the actual destruction wrought by the revolution is nothing to the appalling moral degeneracy and criminality among children which now stands out as the foremost evil of modern Russia. At one hospital where the number of children suffering from venereal disease used never to be higher than 15 per cent, 60 per cent. are now affected as compared with 40 per cent. of adults."—(*Lancet*, London, April 23, 1921.)

A Doctor's Story

DOCTOR AND PATIENCE

HAROLD M. HAYS,
New York

(Concluded from August issue)

One morning, when I woke up, I took myself in hand and gave myself a good tongue lashing. I called myself every name on the calendar and then I felt better. I firmly made up my mind that practice or no practice I was going to do something worth while that day. In a moment my mind flashed back to the invention I had thought of months before.

How a man will procrastinate! The idea of this invention had been in my mind more or less for months, and yet after my thought on it the first day I hadn't even gone so far as to plan it out on paper. I had had plenty of time to get at the thing, but there was always some silly excuse for putting it off. It seemed to me that most people have a habit of doing things that way, with the result that someone else gets on the job before they do and steals their thunder. I have no doubt that many a good idea has gone by the board because it never got any further than a man's brain. Conceiving an idea is one thing; working it out is another. But once the idea is conceived, the matter of working it out ought to be a very simple matter. I couldn't help thinking of Bromley and his invention—a thing so simple that everyone wondered why he had not thought it out before Bromley did. I have no doubt someone else did think of it before Bromley did, but they didn't have the pep to carry it through. It must have been the same with the conception of many surgical operations. For example, Dr. Nicholas Senn was the great pioneer in gynecology. Yet the operations he conceived he worked out on the negro women under his care and the other fellow didn't. I have no doubt that many a man thought of a bloodless amputation of the hip and shoulder, but it took John Wyeth to make it practical. So it has been all along the line of medicine and surgery. Now I felt it was up to me to do my part.

I drew up pencil and paper. My idea was to make a self-retaining retractor for abdominal wounds so that it would be possible to do away with so many assistants and at the same time allow of a better inspection of the operative field. I first roughly drew out sketches of various self-retaining retractors I had seen, such as the one used for mastoid wounds and for eye operations. Then I got out a catalog of surgical instruments which had just come from the Renoun Surgical Instrument Company and went through it carefully, looking over illustrations of surgical instruments which might give me an idea. I decided that a four-bladed retractor was necessary, one that would spread the sides of the wound apart and at the same time would give a good view of the ends of the wound, too. It was comparatively simple to work out the blades of the instrument, but the next thing was to insert a set of springs and catches so that the thing would automatically open as far as one wished and at the same time stay in position. The thing had to work for small as well as large wounds if it were to be at all practical. I found an illustration of a mouth-gag, which decided the matter for me. At the end of two hours I had my in-

vention worked out on paper. How different my mental attitude toward life was! I couldn't believe I was the same man who had got out of bed that morning feeling that the world was dead set against him.

Saying a hasty good-bye to Evelyn and telling Miss Stockdale, who had arrived an hour before, that I would be back shortly, I rushed down to the Renoun Surgical Instrument Company to put my idea before them. I had wasted months, but now I was all in a flurry.

I found that Mr. Rodney had a few moments to spare. He was very much interested in what I had to say.

"A great idea, Dr. Snaith," he said enthusiastically. "We needed just something of this sort. This thing will make a great hit. I'll get my designers on it right away and let you hear from me as soon as I can. This ought to bring in big money. We had better get a patent on it as soon as we can."

"Do you think we ought to do that?" I asked. "It isn't customary to patent things of this kind."

"That's all rot," said Mr. Rodney heatedly. "If you and I work this thing out we ought to get the benefit of it. Moreover, if we don't, someone else will come along with an inferior article and call it yours. Not only will this ruin your reputation, but it might do a great deal of harm. Every decent surgical instrument ought to be patented."

"If you feel that way about it, go ahead," I said.

I left the instrument house to go down to the hospital. I was so excited that it was all I could do to go through my work properly. I heaved a sigh of relief when the clinic was over. I went to seek out Dr. Armstrong to tell him about it. I simply had to tell someone, and I knew that he was the one person I could trust implicitly. I found him in the operating room scrubbing up for an operation.

"That's a good idea, Snaith," he said, after I had explained the invention to him in detail. "We need an instrument of that kind. I'll consider it a favor if you will let me be the first one to try it."

"You bet I will!" I said emphatically. "Did I tell you that Mr. Rodney wants to patent it?"

"Hm! Good idea that, too. Any new invention of that kind ought to be patented. It is the only way to keep the inferior instrument maker from getting hold of it."

"That's just what Mr. Rodney said."

"That's all right, Snaith," went on Dr. Armstrong, "but what did Mr. Rodney say you were going to get out of it? Is he going to give you a royalty?"

"He didn't say. Don't suppose he expects to. It isn't customary is it?"

"Damn the custom, Snaith. You're entitled to a royalty if he patents your invention. I've been at this game longer than you have and take it from me you're a blamed fool if you don't insist on getting a royalty. Your Mr. Rodney is going to make up his mind how much he is going to charge for this instrument and he isn't going to make it any cheaper if you don't take what's coming to you. If he did make it cheaper that would be a different matter. You know I have invented a few instruments myself. Most of them are not of sufficient value to patent, but one or two of them have paid me a fairly decent income. I am sure if you asked the advice of most of the progressive men in the profession you would find that they feel the same way about it as I do."

"I'll think it over, doctor," I said laughingly. "Don't want to buck medical precedent too hard."

"I wouldn't give that a second's thought. A medical man doesn't hesitate to take his royalties on any books that he writes, and has published, does he? It's the usual thing and many a man gets quite a few hundred dollars that way. There's no more reason why a man shouldn't get royalties for an instrument that he invents. The primary reasons why he writes or invents isn't to make money, but that's no reason why he shouldn't get the share of the profits he's entitled to. You insist on getting that royalty. Supposing these instruments sell for twenty dollars apiece. There ought not to be any trouble selling a thousand of them. That means twenty thousand dollars. You ought to get a ten per cent. royalty. Two thousand dollars made that way wouldn't be bad, would it?"

My head began to swim. Of course I had never thought of making money on the thing. The vision of a possible two thousand dollars was too much for me. There was no doubt about it that the worst that could happen was that I could make enough out of it to pay off my note at the bank. It seemed too good to be true. I could hardly wait to get home to Evelyn to tell her about it.

I heard from Mr. Rodney a few weeks later. The instrument was ideal.

Dr. Armstrong tried it out at the hospital. It worked to perfection!

The Snaith Self-retaining Abdominal Retractor was a reality at last!

Mr. Rodney had agreed to give me a ten per cent. royalty!

I spent an afternoon with Evelyn getting a line on a white enamelled baby carriage, a wicker crib, a mahogany high chair and about a million dollars worth of baby clothes. On the way home we priced a nice looking sedan car, which we thought might be good enough for the Snaith family.

CHAPTER XXII.

I was busy again and so I was happy. The days passed too rapidly to suit me. I seemed to be fired with a soul-consuming ambition to work twenty-five hours out of the twenty-four. My office hours were well filled; I had enough patients in the hospital to suit any young surgeon and, as if this were not enough, I received an announcement from the hospital that I had been appointed a junior surgeon. I felt that this was a great step in the right direction for, if I lived long enough, I might some day step in Dr. Armstrong's shoes.

Evelyn was well again, thank God. So that worry was off my mind, too. Both of us were longingly looking forward to the Great Day. We had made up our minds to call him Junior. How did we know it was going to be a boy? That's a secret.

One day a long letter came from Franklin.

Dear John:

I have been so all-fired busy since I saw you last that I haven't had a moment's time to sit down and write you a decent letter. That's the usual excuse that one offers when he doesn't do what he ought to do, isn't it? The truth of the matter is, old man, that I have reserved my spare moments for Beatrice. I have written her every day since your wedding. Writing her has kept my mind off booze considerably.

I know you are going to be dead sick of this letter before I finish. I feel that I am in the food for writing about two or three hundred pages, most of which would be filled with Beatrice and what I think of her. No, that isn't all. I'd have to fill many pages telling you what she has done for this numbskull who had to awaken to a realization that after all there was some good in him anyway.

Johnny boy, I am a c-h-a-n-g-e-d man. You wouldn't know me. I am just the same outside, to the unobserving individual, but inside, I don't know myself. I go to church on Sundays! What do you think of that? And I teach a class in Sunday School. What do you think of that? I'm so all-fired decent that I'm afraid to look into my own closet for fear I'll see the skeleton what was once me and be afraid of it.

I don't know where to begin so I guess I had better begin at the beginning and tell you that I arrived safely in this burg with a breath as pure as the summer air and a mind full of the most beautiful thoughts—which means I was thinking of Beatrice.

I no sooner stepped off the train than I determined to put my house in order. The first thing I did was to resign from the City Club and join the Country Club of whose joys I had partaken once or twice when my legs were steady enough for a game of golf. After that I went to see the minister to whom I unfolded the story of my past life and to whom I promised that from now on I wanted to be a good boy. He promised to help me and immediately clapped a promise on me to attend church regularly every Sunday, rain or shine.

During the following week, I made an inventory of the office. I found that my liabilities were far in excess of my assets, which consisted mainly of a full store of booze bottles, empty and otherwise, a box full of poker chips and two or three decks of cards. There were a few odds and ends of medicines and a few untouched surgical instruments. I determined right then and there to get rid of most of my assets. I didn't even give them to the janitor. I poured the booze down the sink, broke the empty and emptied bottles and burned the cards and chips in a specially made fire which smelled to the people upstairs as though I were brewing a special kind of medicine. Dramatic, isn't it?

My first sermon at church settled me right then and there. It was something about loving thy neighbor and casting temptation to the devil. Right in line with my thoughts. After the sermon, the minister took me round and introduced me to all the decent folks of the community and, strange to say, I didn't meet one of my old friends in the whole bunch. I was immediately asked to dine with Mrs. So-and-So, who had a marriageable daughter and didn't know about Beatrice. Then invitations from other decent people came pouring in until I hardly see any of the old crowd except patients.

That's a funny thing, isn't it? Here I had been in this town for months and couldn't make a go of it. The people I met thought I was a jolly good fellow, apparently, but hardly a one came 'round to see me professionally. Why, do you know, old man, when they were getting over their night's souse, they'd go and consult another doctor for a brace? I don't think they ever thought of me as a doctor. I was too damned good a poker player. There I go cussing! The church has got a lot to do for me yet.

But you ought to see how they come to dear, good old Doctor Bill Franklin now. You would be filled with joy. They don't seem to resent my change of front. In fact, they seem to respect me for it and send their wives and daughters and sweet-hearts and children, too. I greet them all with a smile, a clean suit and a shiny pair of shoes. They seem to like me, especially the kiddies. Once upon a time I told you that I was disgusted because I rarely saw a patient. Now they come by twos and threes and I know you will be surprised, old man Johnny Snaith, when I tell you that my time is so taken up professionally that I hardly have a moment to play a game of golf, and as for evening engagements—well, I manage to get a bite to eat for nothing, and then have to run off to make calls almost every evening.

Remember that this metamorphosis has taken place in the short space of four months. I can't realize it yet. The tonic of success has taken the place of the tonic of booze and doesn't leave a bad taste in the mouth. I don't want to brag too much, but won't you be surprised when I tell you that I took in six hundred in cash—all cash—last month? That's going some, isn't it? And the best of it is, I have a fair amount of it left. You know it doesn't cost much to live here, especially if you cut out the excess entertainment, like drink and cards.

I've learned that I've got one thing I didn't think I had and that is TACT in big letters. I suppose you naturally knew you had it, but you know I've always been pretty much of a blunder and had my say no matter what the other person thought. It didn't hurt me much when I didn't amount to much, but I've found out that one has to be fearfully careful in a small town like this. I don't dare to hurt anyone's feelings and what is more important, I have to be careful to separate the intimate lives of my patients so that I don't tell Mrs. Jones that Mr. Henry was in to see me this morning to have his head cleared up and so that I don't tell Mr. Blue that Mrs. Blue and Mr. Brown were having a comfortable tete-a-tete in my waiting

room one afternoon for over an hour while waiting for me. I saw the lady get up from the arm of his chair, I did.

I'm going to tell you a funny one. I was out to dinner the other night at a Mrs. Fairbairn's. Very correct people there. I don't know how the subject came about, but somehow we got talking about children and the limitation of offspring. It was a dangerous subject, but they were all staid married people. I mentioned that there was a society in New York which was attempting to spread propaganda on the subject. Immediately someone asked me if I believed in that kind of rot. I said I did to a certain extent. For a few moments there was almost a riot in that small circle. A bomb couldn't have created more disturbance. I saw that everyone was against me so I kept my mouth shut. You know there are distinct differences of opinion in the various parts of this country and the wise one is the man who seeks cover when he finds that he is going against local public opinion. The minister almost blew off the ceiling. Mrs. Fairbairn said so many unkind things about the anticonceptionists that there was no chance in the world for them in that town; Mr. James, a prominent lawyer, judicially cut them to smithereens, and Mrs. Peabody opened her jaws so far in amazement that any such thing should be thought of, that I thought I was going to have a surgical operation right there.

When opinion was so set against me, as I said, I kept my mouth shut, although you and I know that the majority of intelligent people do limit the number of their offspring. It is only the poor and ignorant who don't know how or are too lazy to take any precautionary measures.

Now, here's the joke. The next morning my waiting room was filled. Mrs. Fairbairn was there. Mrs. James was there. Mr. James sent her. Mrs. Peabody was there. It seemed to me the whole town was there. And what do you suppose each and everyone of them wanted? I solemnly swear that each and everyone of them wanted to know if I knew of any way of limiting their number of offspring. Pretty good, isn't it?

I can't begin to tell you how happy and contented I am. I wanted to write you pages about Beatrice and my plans. You certainly deserve to know them if anybody does. But I've written enough already to acquaint you with the fact that I ain't the same old Bill. I'm a better Bill, a Bill you'll be proud to know and shake by the hand. It's all your fault and Evelyn's fault and Beatrice's fault.

Beatrice and I have decided on June. I expect you to give the villain—meaning me—away, and for the Lord's sake, don't fumble for the ring. I'll be nervous enough.

My love to you both.

Fondly,

BILL.

Aftermath

As I look over these pages five years later I am content to feel that my experiences of the first months in practice are very little different than those of other men. Every man has to pass through the embryo stage of medical practice and often his future depends on the way he manages things in the beginning. Of course I consider myself particularly fortunate in having had a friend like Dr. Armstrong who, I am glad to say, has become dearer to me each year.

As I have reaped, so have I sowed, and I now feel that, providing I can keep my health (over which I have not supreme control) and my morals (over which I have full control), I shall have little difficulty in gaining that success which I desire so much.

Our little boy—John Junior, of course—has a little sister now. He is four years old and has assumed a certain proprietorship over the baby, who is nine months old. He tells me he is going to be a doctor. And I believe he is. He has his boy dolls and horses and dogs all bandaged up with real gauze underneath the bandages. I have admonished him against going into the office, but his natural curiosity makes him disobey when I am not looking.

Evelyn is just as sweet as she ever was. She constantly helps me out with her good advice and manages to help me spend my income in a good old wifely fashion. I would not have it otherwise, for I hate to see a dowdy doctor's wife. She ought to

advance with her husband and she ought to have the right to spend his money.

The second year we managed to get out of debt. Practice more than doubled itself and the income from my invention put another two thousand dollars in the bank. I managed to buy a few bonds, increased my insurance and took out some accident and health insurance. Evelyn and I agreed that I should give her a certain percentage of the profits. I felt that she had as many hardships as I did and that she was entitled to a decent income if I made it. I think too many doctors make a mistake by begrudging their wives. Marriage ought to be considered a partnership and whatever belongs to the husband ought to belong to the wife. Of course it might happen that a wife would take advantage of her husband, but such a thing couldn't occur between Evelyn and myself. And the truth of the matter is that whatever money has been saved has been the money I have given Evelyn. She says it's hers! It isn't! It's ours—That's only a wifely way of putting things.

We get away from medicine once in a while. It's a good thing to do that. We try to get among people where we can't talk shop all the time. Many doctors become fearfully narrow-minded and their wives take a back seat in the corner, bored to death by hearing the same old talk over and over again. It's all wrong. The big doctor tries to get away from himself and his work once in a while. He plays bridge, he plays golf or tennis, he goes to the opera or theatre, he visits friends and if he wants to make the most of himself he takes on some outside hobby, like raising mushrooms or truck farming. Isn't it strange that the most successful doctors are those who have the most time to do the things they want to do outside of medicine? One of my friends is an artist, another writes short stories, another has ambitions to go into opera.

Dr. Armstrong is still hale and hearty. He is now the director of one of our large hospitals and has whispered in my ear that I am slated for one of the jobs under him. He is much happier now, for Mrs. Armstrong is well enough to live with him. She's a charming, beautiful woman. Evelyn and I dine with them often.

Jacob Aronson has moved up in my neighborhood. He has improved remarkably in every way. His wife comes over with their children once in a while in the afternoon and often in the evening we smoke a pipe together. He's a wonderfully companionable fellow. He plays the violin magnificently and frequently the four of us go to the opera together. We often scrap as to whose car we shall use. Yes, we've both got cars, and they aren't Fords either.

I hear from Bill Franklyn regularly. He has become the best known physician in the town in which he lives, and I understand is worth a pile of money, which hasn't spoiled him a bit. Beatrice wrote to Evelyn that he had put some money into a new steel mill which was reorganized so that he got his money back and a big slice of the common stock, which nets him a few thousand a year. Pretty soft!

Ahern and I are intimate friends. He's one of the finest fellows I know and has a wife who tells his stories almost as well as he does. They had been to almost every country in the world, and each of them has the happy faculty of being able to tell experiences in an interesting way. Most of all I like his stories of South America. He no longer peddles

medicine at seventy-five per week. He's become a big mogul in the financial world and has more gold bows tied to his string than you can shake a stick at. I feel that his friendship is more than worth while. He never fails to remind me of the kindly way I treated him the first day I met him.

A few months ago I felt that all was clear sailing, but the clouds of war are now on the horizon and God only knows what is going to happen. For three years England, France, Belgium and Italy have been fighting the Pan-Germanic tribes, and it looks very much as though we were going to get into it—which means that I shall pack up my clothes and go. I have received an invitation from the Surgeon General to join the Medical Reserve Corps. I shall certainly accept. Evelyn agrees with me that it is the only thing to do. Even with the sacrifice it will mean for us I am aching for the United States to get into the game. We should have gone in when the Lusitania was sunk. Wonder how it feels in a uniform.

The End.

Surgery

The Treatment of Chronic Empyema.

From the study of the literature and of 150 cases from the Mayo Clinic, the following tentative conclusions are drawn by Carl A. Hedblom:

1. Chronic empyema has been recognized and treated during twenty-six centuries, but it is only sixty years since the first rib resection for drainage was done. The successive stages in the progress of treatment since that time are as follows:

(a) Increasingly radical treatment, designed to obliterate the cavity by the collapse of the chest wall, involving successively more extensive operations, and culminating finally in a complete radical resection.

(b) A conservative trend manifested primarily in the modifications of the complete resection, but more in the attempt to preserve the chest wall and to restore the lung to its structural and functional relationships as first advocated by Delorme.

(c) The adaptation of the Carrel-Dakin hypochlorite solution technic to the treatment of chronic empyema cavities.

2. Chronic empyema is a disease which is not incompatible with life nor with a fair degree of health and usefulness. The principles of treatment should, therefore, be, first, the preservation of life, and second, as far as possible, the conservation of function. Shortening convalescence, while very desirable, should always be a subsidiary consideration.

3. The choice of treatment must be made with cognizance of the variable etiology and pathology of the process, and the general condition of the patient.

4. A major procedure is indicated only if non-operative or less extensive surgical treatment reasonably may be considered less effective.

5. In case of sinuses and small cavities, adequate drainage is usually sufficient to effect a cure with or without short preliminary hypochlorite solution treatment. It is at least open to question whether a radical operation is indicated in these cases for the sole purpose of shortening convalescence at the risk of an appreciably increased mortality.

6. Dakin's hypochlorite solution treatment is the method of choice in the treatment of the ordinary type of chronic empyema cavity of any size, for the following reasons:

(a) The general condition of the patient is, as a rule, improved to a remarkable degree.

(b) The cavity may be obliterated or greatly reduced in capacity by the liberation and expansion of the lung (resulting from the treatment).

(c) If the lung expands in part the extent of a later operation will be proportionately reduced.

(d) If the lung entirely fails to expand, the cavity will have become relatively sterile in preparation for operation, thereby lowering post-operative morbidity and mortality.

(e) Pulmonary decortication will be materially facilitated in some cases, owing to the softening action of the solution on the visceral pleura.

7. A pulmonary decortication through a rib-spreading exposure after preliminary hypochlorite solution irrigation is the most conservative treatment for cavities that are not obliterated by drainage or Dakin's solution treatment alone. If such an

operation is successful, the lung is restored to its normal structural and functional relationship, thereby obliterating the cavity. If the operation is only partly successful, the magnitude of a secondary, destructive operation is proportionately decreased.

8. Since it is impossible to judge with certainty before operation of the relative expansibility of the lung in every recent non-tuberculous case, a decortication should be done rather than a destructive operation, thereby giving the patient the benefit of the doubt.

9. If the lung does not expand, or if a considerable cavity persists following decortication, a plastic operation is indicated.

10. If the cavity is of considerable extent or the patient debilitated, a two- or three-stage plastic operation is to be recommended.

11. The recognition of tuberculous empyema is often difficult. A history of a primary pleurisy with effusion seems more often to signify a tuberculous condition than does a pulmonary lesion, unless the latter is active and extensive. A tuberculous empyema may be present in the absence of clinical or X-ray evidence of pulmonary involvement. The typical microscopic picture in the sectional pleura or the demonstration of the bacilli in the exudate may constitute the only evidence in such cases.

12. A tuberculous empyema not secondarily infected should not be drained, and should be aspirated only for a considerable accumulation of fluid. For a tuberculous empyema secondarily infected, either by operation or spontaneously, drainage is necessary.

13. In the absence of bronchial fistulas and of bleeding, secondarily infected tuberculous empyema may be markedly benefited by antiseptic solution treatment. The amount of fibrosis or other pathologic change in the lung in such cases determines the degree of expansion of the lung, whether following antiseptic solution treatment or decortication.

14. If the lung fails to expand in whole or in large part, a several-stage operation designed to collapse the chest wall is indicated. Tuberculous patients are relatively poor operative risks.

15. Adequate drainage is the first indication in cases of empyema cavities which are draining through large bronchial fistulas. The fistulas may be obliterated spontaneously following such treatment.

16. Operative closure of bronchial fistulas that persist is necessary to complete healing. It may be accomplished by decortication of the involved portion of the lung with cautery, suture, or skin plastic to cover the opening of the fistula. Occasionally healing results from simple granulation of surrounding tissue after destruction of the epithelial lining of the bronchial stoma.

17. Closing the bronchus that is draining pus from within the lung may result in a secondary lung abscess.

18. A large bronchial fistula is a contraindication to Dakin's solution treatment.

19. Sinuses of variable duration are common following more or less complete obliteration of empyema cavities; a large proportion eventually are obliterated without radical treatment; for those which persist, plastic operation is indicated.

20. Operative mortality in chronic empyema has been due largely to shock and infection. Reduction of the extent of operation and preliminary sterilization will materially lower this mortality.—(*Annals Surg.*, Sept., 1920.)

Branchial Cysts and Fistulas.

Three cases are reported by P. K. Gilman, San Francisco, a right branchial left fistula; incomplete external type; a cyst of right branchial cleft, and a right branchial cleft fistula, incomplete external type. In each case a successful operation was performed.—(*J. A. M. A.*)

Esophageal Stenosis Following Swallowing of Caustic Alkalies.

Chevalier Jackson, Philadelphia, cites the case of a child who, in spite of the best of medical and surgical care, died as the result of swallowing a powerful corrosive poison (94 per cent. sodium hydroxid) that was purchased in grocery store. The poison label on the container in which it was sold was so minute as not afford sufficient warning of the great danger of leaving the preparation in reach of children. Moreover, the tiny typed wording read vertically, which contributes to its being inconspicuous. He points out the danger of selling such stuff so labeled, especially as poisons sold by druggists to the laity are subject to legal regulations as to labeling, and such drugs go into the medicine cupboard while the caustic alkalis sold by the grocer go into the kitchen.—(*J. A. M. A.*)

Hemoglobinuria After a Second Transfusion with Same Donor.

In the case reported by William Thalheimer, Milwaukee, a boy was transfused with his father's blood. A direct test of these bloods, made both by macroscopic and by microscopic methods, detected no agglutinins. The transfusion was performed by the citrate method and was followed by only a mild febrile reaction. Eighteen days later a similar transfusion was performed with the same donor, and after about 150 c.c. had been given, a most severe and unexpected reaction occurred. The transfusion was, of course, immediately stopped, and a few hours later the patient voided very dark, hemoglobinuric urine. This showed that hemolysis had occurred, and explained the reaction. The cause of this intravascular hemolysis was also subsequently discovered. Two tests were overlooked in preparing for these transfusions. Had these been performed, another donor would have been selected, and the agglutinative and hemolytic phenomena would not have taken place. Yet on superficial examination it would seem that all the necessary precautions had been taken.

A direct test of the bloods gave absolutely no agglutinins or hemolysins. This was further demonstrated by absence of agglutination or hemolysis after the first transfusion. The success of this led to the omission of the tests before the second transfusion. It is known that in many instances repeated transfusions have been made with the same donor and recipient with no bad results. This case, together with some experimental transfusions in animals, demonstrates the necessity of performing tests before each transfusion, even though the same donor, who was previously satisfactory, is used. The two errors were: (1) performing only direct tests on the two bloods and not also determining the blood groups; (2) not repeating the direct tests before the second transfusion. Several weeks later the blood groups (Jansky nomenclature) showed the patient to belong to Group I, and the donor (the patient's father) to Group III.—(J. A. M. A.)

Multiple Malignant Neoplasms.

Cases are recorded by Leonard J. Owen, St. Louis, in which there were observed multiple malignant growths either of the same type or of different types. In the majority of cases the neoplasms were simultaneously present, though in some cases there was a sequence of development, the first growths having been treated successfully. Care was taken in the latter cases to rule out those in which there was the possibility that the second growth was a recurrence, or what might be more accurately termed a neoplastic recidive. The recording of metastatic growths was also guarded against. Several cases that had been recorded as multiple melanomas were excluded on this basis. Among 3,000 cases of malignancy reviewed, 143, or 4.7 per cent., were cases of multiple growths. There were eighty-six basal cell carcinomas; twenty basal cell and prickle cell cancers, seven multiple malignant squamous cell carcinomas of mucous membrane origin; fourteen cases of bilateral cancer of the breast; five cases of coincidence of breast and other types of cancer; four cases of multiple cystic carcinomas and four melanomas. There was one case in which multiple cancers of the stomach were found. There were two cases in which more than two types of malignant neoplasm were present. In one of these cases there were seven neoplasms, including a basal cell carcinoma of the forehead, a sarcoma of the antrum, and bilateral adenocarcinomas of the breasts. In the second case, both breasts had contained nodules for twenty-five years; the lower left alveolar border was the site of a malignant squamous cell carcinoma, from which there were metastases to the submaxillary region. There was also a large carcinoma of the cervix.—(J. A. M. A.)

Difficulties in Diagnosis of Empyema Complicating Pneumonia.

Roger S. Morris, Cincinnati, has observed a number of cases in which, following an attack of pneumonia, dullness over the affected lobe became more intense, even flat, with distant or absent breath sounds, not infrequently egophony, and diminished or absent vocal fremitus; often with dullness over the lower dorsal spines and a paravertebral triangle of dullness on the unaffected side. Given such physical signs, exploratory puncture is always indicated. If a syringe of pus is obtained, the diagnosis is practically certain, and drainage is indicated. It sometimes happens, however, that only a drop or two of pus is obtained, and then the interpretation of the finding is more difficult. The accompanying case histories are illustrative. There have been many instances in which, with a delayed restoration, all the signs of fluid in the pleural cavity have been observed. At times, the signs persist for

two or three days, only to disappear for a short time or permanently. Not infrequently the signs of fluid are present one day, absent the next, and reappear the third day. In such cases, exploratory puncture usually fails to reveal pus. Morris has come to the conclusion, as a result of numerous necropsy findings, that all of the evidences of fluid in the pleural cavity may result when, in addition to infiltration of the lung, the bronchi are filled with secretion. This, in effect, is a massive pneumonia, a condition which has long been known to simulate fluid in the pleural cavity.—(J. A. M. A.)

Melano-Epithelioma of Palate.

Only twenty-four instances of primary melano-epithelioma of the palate were found in the literature by Gordon B. New and French K. Hansel, Rochester, Minn. One case at the Mayo Clinic, which was observed in 163 cases of melano-epithelioma of the body in general and thirty-two primary epitheliomas of the palate, makes a total of twenty-five cases. The patient was a man, aged 62, who had a tumor about 1 cm. in diameter of the right side of the palate which he had noticed one month before by feeling it with his tongue. The tumor had grown very rapidly. A piece of the growth was removed by the patient's home physician, and microscopic examination revealed melanosisarcoma. The patient had not worn dental plates, and there was no history of trauma or pigmentation on the palate. The tumor had bled slightly on several occasions. A slight defect in the speech was the only symptom manifest. The tumor was cauterized thoroughly with soldering irons, and twelve days later 5 mg. of radium was applied to the open wound for ten hours with no screening except the radium container, less than 1 mm. in thickness. Eleven months afterward there was a recurring growth on the palate.—(J. A. M. A.)

Clothes for Needy Europeans.

Eastern and Central Europe, and particularly the children, is nearer nakedness than it has been at any time since the close of the Napoleonic wars. In a recent review of present European conditions the American Relief Administration announced: "From the standpoint of food conditions are better; from the standpoint of clothing, they are worse."

All observers agree that the need will reach a climax next winter. Where no clothes have been bought since 1915, except by the sale of household articles and heirlooms, the accumulated stores of years are bound to be exhausted in time, and that limit has now been reached in most families.

The chief reason why Europeans cannot buy clothes is the depreciation of their currency. It has brought the value of what was once a comfortable income in Vienna—15,000 crowns or \$3,000 a year—to \$30. Polish money has fallen twice as far as the money of Austria; in Warsaw 10,000 marks, once worth \$2,500 in American money, will now bring only \$10.

The effect of this money situation upon clothing is clear when it is realized that Central and Eastern Europe import their clothing or the raw materials of clothing from countries whose money is normal or nearly normal. Hence, in Vienna a suit of clothes costs a university professor three months' salary. A pair of shoes cannot be bought in Poland without a family's going hungry for a month.

So desperate is the situation babies are born with no provision made for clothing them and the sick in the hospitals are dependent upon paper bandages. American Red Cross workers say that the number of mothers in Europe who will be unable to provide clothing for their new-born babies will pass the million mark. Hundreds of thousands of children will have no shoes when cold weather comes unless they are provided in advance by American relief organizations.

The American Friends' Service Committee has united with the American Red Cross in a joint summer collection of used and unused garments to meet this situation as far as is possible. The drive will be nation-wide. Those who want to know how they can help should apply to the nearest Red Cross Chapter or other Red Cross representative. Only garments which are strong, sensible, and serviceable are worth paying freight on across the water. Shoes must be in good condition and tied in pairs. Knitted garments, especially stockings and sweaters, will be badly needed. Baby clothing, new or used; uncut muslin and flannelette; strong cloth for suits, yarn, even thread in great quantities, should be accumulated.

The main collecting point for the joint campaign is the big American Red Cross Warehouse, Bush Terminal, Brooklyn, N. Y. Red Cross workers will have specific shipping instructions. Goods may also be shipped to the Warehouse of the American Friends' Service Committee, 15th and Cherry Streets, Philadelphia, Pa. All shipments should be prepaid.

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NEW YORK, SEPTEMBER, 1921.

A New Contributing Editor.

Lieut. John Duff, Jr., U. S. Navy, has been made a member of the Board of Contributing Editors of the MEDICAL TIMES, to fill the vacancy created by the passing of the lamented Dr. George F. Butler.

Dr. Duff is a son of Dr. John Duff, a well-known Boston physician and of Mrs. Julia E. Duff, who made a reputation as an educator and as a member of the Boston School Board. He was educated at the Massachusetts Institute of Technology and Tufts College Medical School.

Entering the Navy in 1917 Dr. Duff has been stationed in the Virgin Islands, where he was in charge of the Naval Dispensaries at St. Thomas and St. Croix for nearly three years and is now in charge of the Medical Department, U. S. Naval Proving Ground, Lower Station, Dahlgren, Va.

He has published "Demonstration of Bone Wiring Instruments" (by invitation of the Boston Surgical Society), "Boston Medical and Surgical Journal," May 3, 1917.

"Wire-Banding for Fractures" (Fred J. Cotton, M.D., and John Duff, Jr., M.D.), "Surgery, Gynecology and Obstetrics," November 1917.

"Pin-Point Method of Skin-grafting with a New Technique and After Treatment," "United States Naval Medical Bulletin," July, 1918, and has devised the Duff Bone-Band Guide, Duff Wire Bander and Duff Circular Saw for Fixed Dressings.

Music Versus Bolshevism.

Charles M. Schwab recently recommended music as a cure for Bolshevism.

"Music is a great antidote for unrest," said Mr. Schwab, "for the most primitive and ignorant are susceptible to music. It's a sedative and a stabilizer

and promotes beautiful thoughts. No normal person could do wrong or think wrong with the sound of music in his ears. In all of my establishments I encourage music of every kind. Better business and better work is done by persons who have an appreciation of the finer things of life, and there is nothing finer than good music."

Why may not the steel magnates be affected by it themselves?

If music can lull the workers' sense of economic injustice why may it not affect the captains of industry favorably?

We evidently have here a therapeutic measure against psychopathologic states of unsuspected potency and wide application.

Perhaps Mr. Schwab is monkeying with a two-edged buzz saw. Who knows but the subjection of the capitalist to the charms of music may lead to his reclamation even yet. It may even be that a well played fugue will yet stampede a board of directors into capitulating to industrial democracy and, horror of horrors, to the closed shop.

Our industrial and institutional executives are discovering many wholesome ways of increasing production and improving discipline. It has been found that the energy output of workers can be increased by certain simple measures. Thus the utilization of music has proven an effective measure. The serving of tea and coffee at certain hours has quite a magical effect. The increase of sugar in the diet of the refractory girl inmates of the Bedford Reformatory is said to have effected a marked change for the better in the discipline of the rebels. These things, humane as they are, simply mean that we are grudgingly granting as palliatives and stimulants things that should properly belong of right and by virtue of personal possession in the life of every individual.

There is no doubt that the decent standards of living that will some day be brought about by the economic revolution that is yet to be will practically banish the wasteful warfare that now goes on between capital entrenched in special privilege, and labor, and between society and the anti-social. To that *dénouement* we as physicians should look forward with impatience on the score of the people's health.

Then there will be fewer girls destined from birth for Bedford and more workers to whom the history of strikes will read like the old struggles for civil rights. Capital itself will then function normally and beneficently. And best of all, from our point of view, the public health will benefit hugely.

Our optimism may provoke smiles, but we have no apology for our faith.

Demoralizing Tendencies in Present-day Practice.

It has doubtless been borne in upon many of us that the requirements of the narcotic and prohibition laws, to mention only two regulatory measures, have had a bad effect upon confidential relations in general. It has become the fashion to publish the ailments of our patients. The legalization of this limited publicity by no means nullifies its demoralizing influence in other directions. The psychologic effect tends to make less sacred all our obligations regarding confidences.

We may as well add to these factors the partial suspension of the old order of obligations during the late wartime. Confidential consideration of personal problems, both medical and otherwise, was then necessarily shattered, albeit within official boards.

From the demoralizing effect of this we shall, however, in time recover, and none of us at the time failed to sense the corrective thought that it was all part of the hell that is war and in no way reflective of normal life and method.

We must do our best to preserve the hallowed traditions of the profession in the face of increasing pressure, specious and insidious proposals notwithstanding.

Two Practical Points in the Management of Pyloric Spasm in Infants.

The rapidity with which certain cases of pyloric spasm in infants clear up immediately upon the weaning of these babies seems significant.

What factor is at work in these instances, vitiating the mother's milk and causing more or less projectile vomiting from practically the beginning of nursing?

In our opinion it may very well be the mother's tea or coffee inebriety that is at the bottom of some of these cases, certainly in the purely spasmodic, or not markedly hypertrophic ones. Ante-natal and post-natal caffeinism is probably a big determining factor. And when we say inebriety we have in mind both those who "swill" the poison in question and who possess susceptible nervous symptoms that are affected by small doses.

The practice is very often to take the child off the breast but continue to feed him the mother's milk, drawn off and diluted with water. This accomplishes but partial improvement, as the poisonous active principles of the tea and coffee drunk by the mother still reach the child's nervous system.

In an institution for babies the writer recently inquired as to the method of treating these cases, and found that wet nurses, under continuous indoor control, were being used a good deal, and that these women were actually being supplied with all the tea and coffee they desired, which means a great deal. The fact that the babies were not doing very famously may have borne a very definite relationship to the habits of these women.

This is merely a horse-sense proposition that can easily be tested. The writer's limited personal experiences have tended strongly to show that there is something in the idea.

Another point in connection with the successful management of these difficult cases relates to the anti-spasmodic effect of alcohol. From twenty-drop doses of whiskey every three or four hours one frequently gets a relaxation of the pylorus. This narcotic or anoci-associative effect, provided the child is protected against the nerve poisons having a stimulating action on the pyloric musculature—in other words the active principles of tea and coffee—is sometimes, in the experience of the writer, a life-saving one.

The Unfitting of Medical Students for Practice.

Dr. James Burnet, writing in the *Prescriber*, points out the modern tendency to train medical students as though they were intended to be research workers in laboratories to the end of their days.

It does seem to be oftentimes overlooked that the student of today will be the practising doctor of tomorrow.

This state of affairs accounts for that type of

young practitioner who finds it difficult to adjust himself to the practical demands made upon him. He is the gentleman whose "patter" is of the ultra-scientific sort, but who tends to fail either as scientist or practitioner, and to be not very human with respect to personality.

Many of these men, it is true, settle down to their civic duties in a half-hearted way, but for all their scientific attainments they never find the actual practice of medicine a true vocation. And we have noted that such men are seldom interested in the larger sociological aspects of disease, revealing all the bourgeois prejudices against economic fundamentals.

Then there is the added paradox that the stiffer the requirements for a degree in medicine become, the poorer the type of recruit that responds.

It can hardly be denied that along with the advantages of what has been called Morganized medicine there are some decided disadvantages.

And it is realized by a few that whatever the shortcomings of the old proprietary type of school it turned out proportionately more men of parts—even an astounding number of really great figures in the annals of medicine.

While the old proprietary type of school has justly died we have by no means reached the millenium in medical education.

No rational solution of this problem would seem to be possible at the present time, so obsessed are we by certain pedagogic notions. But since it is heretical to challenge these too hardily we shall forbear and leave the problem with thoughtful if not radical colleagues. Time and evolution will set things right.

Mass Psychopathology.

A lay contemporary points out that mob action is immensely enjoyable for everyone taking part but the victim, who, after all, cannot expect much consideration. Schoolboys, the writer goes on to say, derive much sport from the more or less harmless torture of a comrade at a fraternity initiation, and there is no doubt, he thinks, that the same spirit actuates the staid business men who dress up in a sheet and, calling themselves Knights of the Invisible Empire, or some equally childish name, pour tar over the body of a member of the community they dislike and then rip open a feather pillow above the black, sticky, loathsome mass. Our contemporary estimates that about ten per cent. of the people of the United States have indulged themselves in this manner.

This lay writer misses the meaning of these performances by just a slight point. It is not childishness that we have to consider in such adults, but feeble-mindedness. These groups write themselves down as mental defectives.

Of course there are other phases to be taken into account, such as we have dwelt upon before. Criminal sadism plays a part, and so does moral imbecility, and then there is a social and economic complex to be reckoned with, namely, misdirected violence on the part of wretched masses who are themselves the victims of exploitation of various sorts and who attack scapegoats instead of their exploiters.

But back of it all is group feeble-mindedness. The action of Ku Klux Klans and other mobs affords a rough and ready gauge of the amount of feeble-mindedness in any community.

Orphans as Guinea Pigs.

We have received a letter from *The Nation* requesting us to comment on or answer an article which appeared in that publication on June 29. The letter follows:

"Editor MEDICAL TIMES,
95 Nassau St., New York City.

"Dear Sir:—

"In *The Nation* for June 29, Konrad Berkovici raises a question of professional ethics which we feel should be discussed and answered within the medical profession.

"He describes experiments with scurvy and rickets, performed on healthy children in an orphan asylum. The results to science are unquestionably valuable. The results to the children in some cases were fatal. In others the health of the child was probably permanently impaired.

"We are sending under separate cover an advance copy of *The Nation* containing this article. We hope you will care to answer or comment on it. We shall appreciate it very much if you will let us see any notice you may publish."

In reply we have to confess that we had the experiments of Hess in mind when we wrote the editorial which was published in our August issue under the caption "Horse Sense in Medicine." We think our remarks on that occasion express our best thought on the subject and hope *The Nation* will find them apropos. Just now we have nothing further to offer, except the suggestion that some zealous scientist ought not to overlook the fact that no horde of children has as yet been kept in a dark cellar for six months or so in order to demonstrate that sunshine and fresh air are really important requirements in the hygiene of youth.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Bernard Shaw on Hospitals.

Hospitals are the pet resources of the rich man whose money is burning a hole in his pockets. Here, however, the verdict of sound social economy is emphatic. Never give a farthing to an ordinary hospital. An experimental hospital is a different thing; a millionaire who is interested in proving that the use of drugs, of animal food, of alcohol, of the knife in cancer, or the like, can be and should be dispensed with, may endow a temporary hospital for that purpose; but in the charitable hospital private endowment and private management mean not only the pauperization of the ratepayer, but irresponsibility, waste and extravagance (checked by spasmodic stinginess, favoritism, almost unbridled license for experiments on patients by scientifically enthusiastic doctors, and a system of begging for letters of admission which would be denounced as intolerable if it were part of the red tape of a public body. A safe rule for the millionaire is never to do anything for the public, any more than for an individual, that the public will do (because it must) for itself without his intervention. The provision of proper hospital accommodation is pre-eminently one of these things. Already more than a third of London's hospital accommodation is provided by the ratepayers. In Warrington the hospital rate, which was 2d in the pound in 1887-8, rose in five years to 1s. 2d. If a billionaire had interposed to take this increase on his own shoulders, he would have been simply wasting money for which better uses were waiting, demoralizing his neighbors, and forestalling good hospitals by bad ones. Our present cadging (begging) hospital system will soon go the way of the old Poor Law; and no invalid will be a penny the worse.

Never endow hospitals.

Public Health

Uncle Sam's Model Village.

The first annual report on the model health department in the model village which the U. S. Public Health Service has been developing for nearly two years on the 516-acre Government reservation at Perryville, Md., shows some interesting facts.

The reservation was used during the war as a site for a huge nitrate plant. The buildings included 200 cottages, two general stores, a model school house, club, firehouse, and theater for the employees. The whole reservation was turned over by Congress to the Public Health Service for a hospital site and for the storage of the vast quantities of medical stores required for the U. S. Public Health Service hospitals.

The Public Health Service promptly transformed a group of cottages into one hospital and set to build another, the whole now accommodating 430 patients. Not including the somewhat variable hospital quota the reservation now has a population of 839 persons, about equally male and female, with many children and few aged.

The birth rate on the reservation was 39.33 per thousand, as against 24.39 in the whole State and 28.78 in the county. The death rate was only 3.67, the excess in children being probably about balanced by the deficiency in aged persons. While this low death rate is partly due to the favorable age constitution of the population, much of the credit belongs to the efficient health administration.

Careful work has kept the record of communicable diseases low. Particularly was this the case with diphtheria, of which an outbreak was reported early in the year in the village outside the reservation, across the railroad track, from which many workmen came daily to the plant. The Schick test showed that one-third of the children in the school were susceptible to the disease; and all of these were promptly immunized by a new method. Three months later a second test showed that only three still remained susceptible.

During the year 30 cases of diphtheria occurred in the county and three on the reservation, one of them a newcomer, one a young sister of a boy who was found to be a carrier, and one an adult.

The low prevalence of contagious disease is ascribed directly to close watch and prompt isolation; laboratory diagnosis, and prophylaxis; and indirectly to pasteurized milk, filtered and chlorinated water, school medical supervision and good living conditions, including sewers, screens, and covered garbage cans.

A physical examination of the children showed that 93.5 per cent. had physical defects of teeth, tonsils, adenoids, eyes or hearing, this large percentage probably being due to the lack of facilities for remedial correction nearer than Baltimore. Similar percentages are found in the county outside the reservation. Many of these defects have recently been corrected by the parents.

Between November, 1919, and 1920 the percentage of underweight children was reduced from 42.7 to 13.8.

The drinking water, which is drawn from the Susquehanna River, is naturally in bad condition, being contaminated in several highly variable ways. For use on the reservation it is pumped to settling tanks, where the suspended matter is first precipitated by coagulation with aluminum sulphate, after which the water is passed through sand filters. This purification is further supplemented by disinfecting the water with liquid chlorine.

Mosquitoes were practically exterminated by the usual methods. This was essential, both to afford much needed relief, and to prevent malaria being transmitted from soldiers in hospital who had been trained in Southern camps and might have become carriers of the malaria germs.

The reservation offers many facilities for research work, particularly in various phases of sanitary engineering. Its location suggests it as a school where public health administration can be taught practically to all interested.

The Antivenereal Campaign (in France): Education of Educators.

H. Gougerot advocates these four principal methods: (1) The issuing of pamphlets; (2) conferences; (3) courses of social hygiene—these of primary importance; (4) articles in the various periodicals.

The Comité National de Propagande d'Hygiène Sociale pursues among its principal activities the policy of issuing pamphlets.

A special conference on Social Hygiene will take place in Paris in 1922. This will be conducted by the new Comité Français Propagande d'Hygiène Sociale, with the support of the Société Française de Prophylaxie Sanitaire et Sociale. These

congresses will take place regularly each year or every other year, and will include all branches of social hygiene in relation to tuberculosis, alcoholism, depopulation, venereal disease, etc.

Courses on social hygiene have proved to be the best method for educating educators. Already in France successful attempts have been made, such as those arranged by the Comité National d'Education Physique et Sportive d'Hygiène Sociale, and which the new Comité de Propagande d'Hygiène Sociale et d'Education Prophylactique will continue. In the military cadet schools this plan will soon be realized and in the normal schools the courses planned for last year will be carried out in 1921-22. The course is 14 lectures with six as a minimum.

The political periodicals which already print scientific articles, the educational, the sporting papers, and the trade journals, etc., should contain a periodical feuillet—once a week for the dailies—reproducing the lectures of the above courses and the principal pamphlets.

"This education of educators is an indispensable and urgent matter if propagandists are to be taught the pursuit of the methods of propaganda. It is necessary because antiveneal propaganda is a delicate matter. It is urgent because, if we wish to exert an influence on the masses, we must ensure that those who are to exert this influence are efficiently equipped."—(*Inter. Jour. Public Health*, May-June, 1921.)

Low Prevalence of Venereal Disease in Rural Areas (In England).

Dr. A. G. R. Foulerton, C.M.O., referring to the scheme for the treatment of venereal diseases in East Sussex, mentions that the number of cases attending the dispensaries from the smaller urban districts and from the rural districts is a very small one, in spite of the fact that, in accordance with the directions of the Ministry of Health the traveling expenses of patients attending the dispensaries are paid whenever such assistance appears to be necessary. That the comparatively small number of patients from these districts is due to an infrequency of venereal disease, and not to any unwillingness to accept dispensary treatment is suggested by several facts. The rate for ophthalmia neonatorum is relatively low, 4.2 per 1,000 births as against a rate of 6 for the group of administrative countries and 9.9 for England and Wales. Although medical men know of facilities for diagnosis these have been taken advantage of in few cases. Finally, constant personal inquiry among physicians in this country shows amount of venereal disease to be distinctly small.—(*Med. Officer*, London, April, 2, 1921.)

Bookkeeping of Babies Shows Large Waste of Infant Life.

Since 1915 the Federal Government has been able to keep a ledger for the birth registration area showing profit and loss in terms of infant life and death. The figures for a five-year period are given for 18 large cities in a brief report entitled "Infant Mortality in Pittsburgh," which has just been issued by the U. S. Department of Labor through the Children's Bureau.

Of the 9 large cities in the birth registration area since it was established in 1915, Washington, Philadelphia and New York show the most satisfactory progress toward a reduction of rates, though Minneapolis has consistently maintained the lowest rate of any of the 9. In each year of the five-year period, 1916-1920, Pittsburgh lost more babies in proportion to its births than any other of the 9 cities.

In Pittsburgh as a whole, in 1920, there was a loss during infancy of one life out of every 9. The rates varied greatly in different parts of the city, the rate in the most unfavorable ward being 157 deaths for every 1,000 births, while in the most favorable ward the rate was only 64 per 1,000.

Nearly one-half the babies who failed to survive died before they were a month old, when deaths are largely due to natal and prenatal causes. It has been clearly demonstrated that such deaths are largely preventable through care and instruction for the mother before the baby is born, and skilled care at and shortly after birth. Nearly one-fourth of the deaths were caused by gastrointestinal diseases. Deaths from these causes occur for the most part in the heat of summer. They can be reduced through instructions to mothers in the proper care and feeding of babies and through civic supervision to insure purity and proper handling of milk supplies.

Milk stations, maternity and baby clinics, and public health nursing service have been established in Pittsburgh. An extension of such service is necessary if the city is to deal effectively with the problem of infant mortality, and if the ledger for the next five years is to show saving in infant life.

Typhoid Fever and Chlorination of Drinking Water.

How a community, by too strenuous protest against an unpleasant but transitory condition, can condemn itself for years to an annual recurrence of disease, is strongly brought out in

a report by Dr. R. G. Perkins, of the Cleveland Division of Health, recently reprinted by the U. S. Public Health Service.

Cleveland, says the report, obtains its water through two cribs placed 4½ miles out in Lake Erie and delivers it through two pumping stations, at one of which it is filtered and at both of which it is chlorinated.

Chlorination was begun in 1911, when the growth of the city and the increasing pollution of the lake water made treatment essential. After numerous experiments the "dosage" of chlorine necessary to make the water safe was determined. This amount was added and the typhoid curve fell with unusual sharpness. Unfortunately, conditions compelled the delivery of the doctored water through the mains in some parts of the city so shortly after it was treated that the taste of chlorine was still apparent.

Much complaint followed, but was dying out when, early in 1912, a flood in the Cuyahoga River, which enters the lake at Cleveland, carried sewage and trade wastes out into the cribs, through which they reached the city mains. The trade wastes gave to the water an unpleasant taste, which everybody promptly blamed on the chlorination.

The mayor bent beneath the storm of protest. By his order the "dosage" of chlorine was reduced and during the ensuing nine years it has never been high enough, the report says, to fully counteract the ever-present pollution in the raw water.

The typhoid bacillus in drinking water is very difficult to find by laboratory methods, but the finding of sewage pollution is always considered as a warning to its possible presence.

In 1918, in the effort to better conditions, a filtration plant was put into service at the larger pumping stations, which handles nearly three-fourths of the city consumption. Laboratory tests, however, show that sewage pollution is present in the unfiltered water in the city mains nearly half the time and in the filtered water from 8 to 22 per cent. of the time.

In 1918 and in 1920, when these tests showed the water to be badly polluted, the number of cases of typhoid fever in the city that could not be traced to any cause other than the water was double those that occurred in 1919, when the tests showed the water to be much better. From this the report argues that the pollution of the water and the amount of typhoid fever are directly related; and that when the pollution is reduced to a minimum, as the report says that it can be by existing facilities, typhoid fever in the city will be very greatly reduced.

It should be added that the engineer of the water division of the city, a man whose experience the report concedes to be large, finds himself unable to admit that the untraced part of the rise of typhoid in Cleveland in the summer is due to water pollution.

British Ministry Officially Denies Support to Self-Disinfection as Policy.

The British Ministry of Health, after carefully considering the final report of the Royal Commission on Venereal Diseases and that of an interdepartmental committee appointed by the Minister of Health, has officially declared that the government cannot give support to self-disinfection as a policy. The Ministry states its decision thus: "The actual situation which confronts the Government is that there is not unanimity of opinion on the medical side as to the practicability and likelihood of success of self-disinfection for the civil population, whereas on the moral and social side most weighty objections are advanced against it. It is clear that this question is one which cannot be decided solely by reference to medical opinion: moral and social considerations of very great importance are involved in it. In the circumstances the Government have decided that they cannot give official support to self-disinfection as a policy."

This pronouncement, it is claimed, will go far toward ending the controversy on the merits of the immediate treatment or so-called prophylactic packet, which has been carried on in England for a considerable length of time.

In elaborating its judgment the Ministry says:

"The Government have given careful consideration to the question on which the views of these two Committees, official and unofficial, are not completely in accord, namely, the question of self-disinfection, but they find that there is general agreement on the following conclusions:

"(1) That the best way to avoid risk of venereal disease is to abstain from promiscuous sexual intercourse, and that a steady and continuous policy of public enlightenment on this point, and as to the risks of venereal disease and its resulting consequences on the general health of the community, is essential.

"(2) That disinfection immediately after exposure to risk of infection is effective only to the extent to which it can be thoroughly and intelligently applied in the particular case.

"They also find that medical opinion is divided on the question of the efficacy of self-disinfection for the civilian population, and in particular on such questions as (1) whether it is practicable to give such instruction to the population generally

as will ensure that the disinfectants are thoroughly and skillfully applied; (2) whether the spreading of knowledge as to the efficacy of disinfectants would not lead to persons running the risk of infection who would otherwise avoid that risk, and thus increase the spread of disease; and (3) whether the disinfectants will not be used in some cases for the treatment of developed disease with the result that proper treatment will be delayed and the cure of the disease rendered more difficult and uncertain.

"The decision of the Government emphasizes the importance in the interests not only of the individuals concerned, but also in those of the community in general, of continuing and extending public instruction and enlightenment as to the dangers arising from promiscuous sexual intercourse, and the disastrous consequences on the general health of the community which result from the spread of venereal diseases. The Minister is aware that in most parts of the country a wisely directed campaign has been, and is being, carried on in this direction, and he is advised that it is essential that no opportunity should be lost of educating public opinion on this matter."

By this official declaration of policy, the British government takes common ground with that of the United States on this question and expresses concurrence in the conclusions arrived at by the War and Navy Departments of the United States, the All-America Conference on Venereal Disease, and the U. S. Public Health Service.

Advanced Step on Hospitalization of Venereal Disease Patients.

After mature consideration, the trustees of the American Hospital Association have passed and released for publication three resolutions which have direct bearing on fundamental hospital policies. One of these resolutions pertains to venereal disease, and is quoted below:

WHEREAS, it is now generally agreed that only a small percentage of venereal-disease patients need bed treatment at any stage of their disease; and

WHEREAS, it is now established that bed treatment for the few who do need it is of short duration and not only benefits the patient but distinctly lessens a public-health menace; and

WHEREAS, knowledge of venereal disease is now so general that the psychology of all attendants can be depended upon to prevent contagion from all known cases of venereal disease; be it therefore

RESOLVED, that we, the trustees of the American Hospital Association, do hereby urge all hospital authorities to give consideration to this matter, to the end that all general hospitals shall admit venereal-disease patients as other patients and enter these diagnoses as other diagnoses on histories, whether primary or complicating, and also develop sufficient dispensary service to provide care for the ambulatory cases and the ambulatory stages of the cases treated in the hospital.

To those in the public-health field who have been working for many years to gain this recognition for sufferers from venereal diseases, the action of the American Hospital Association is considered a most significant one. "It evidences," says one health officer, "the new attitude which is growing up regarding these diseases. The association would not have taken this action unless assured that the general public sympathized with it."

Efficiency of Public Health Officers.

The efficiency of the local health officer, says Dr. Robert Olesen, in a recent U. S. Public Health Service report, should be judged not so much by the number of epidemics he crushes but by the number that he prevents. Nevertheless, it is a good deal easier to measure cures than to measure prevention of disease.

To meet this difficulty Dr. Olesen suggests that every health officer measure his own performance of duty by the score card so widely used in determining the sanitary conditions of dairies, restaurants and the like. Such a use would at least provide a mirror in which he could view himself, and if used by the state authorities would record of the efficiency of the various local officers.

The score card would show, for instance, how well the health officer had prepared to avail himself of aid from the scattered health activities in his locality. Little as some officers may realize it, governmental and private agencies covering every conceivable field of health work are willing and even anxious to help him in solving local problems. The smallest request for information or aid will amaze him by the fullness of its response. When emergency comes he will have little time to seek the people best fitted to supply information or aid, and he who has learned beforehand where to find them will probably render the most efficient service.

Syphilis

A Clinical Study of Wassermann Fast Syphilis, With Special Reference to Prognosis and Treatment.

Group of 101 of primarily late syphilis was studied by John H. Stokes and George J. Busnan. All had received more than twelve intravenous injections of arsphenamin, with appropriate interim mercurialization, yet remained persistently Wassermann positive. There were only ten patients presenting no other evidence of syphilis than the positive Wassermann. Cardiovascular changes are apparently those most likely to underlie resistant positive Wassermann test in late syphilis (44 per cent.), with neurosyphilis 30 per cent., osseous lesions 30 per cent., hepatic, splenic, and gastric syphilis 21 per cent. and other types 10 to 17 per cent. Sixty-five per cent. of the patients with cardiovascular syphilis had aortitis, and 60 per cent. myocardial changes. Of the neurosyphilis, 40 per cent. had paresis and 50 per cent. clinical tabes dorsalis. Fifty per cent. with neurosyphilis had cardiovascular syphilis also. Gastric and hepatic syphilis were recognized in 52 and 47 per cent. of the visceral cases as against only 14 per cent. presenting splenic involvement.

Patients with cutaneous syphilis show the familiar immunity from neurosyphilis and the reverse. While pyogenic foci were present in 74 per cent. of patients with resistant Wassermann reactions no frank etiologic connection was apparent. The same was true of alcohol, which was used by only 12 per cent. of these patients. No evidence that Wassermann-fastness is the result of infection with any special strain or organisms, in fact, the "polystructural" involvement in such cases suggests the contrary. Eighty-four per cent. of the Wassermann-fast group have undergone symptomatic arrest under the treatment received. Paresis and tabes dorsalis with gastric crises formed more than half the failures. A persistently positive serum Wassermann reaction seems to be an accompaniment of grave rather than trivial syphilis.

Wassermann-fast patients should not, in the opinion of the authors, be discharged from periodic careful re-examination, with special reference to the cardiovascular and nervous systems throughout life. — (*Amer. Jour. Med. Sci.*, November, 1920.)

Nerve Injuries Due to Errors in Technic in Making Intravenous Arsphenamin Injections.

Dean Lewis says that accidents following the intravenous injection of arsphenamin, although uncommon, are very serious when they do occur. The author reports two cases in which the solutions of arsphenamin were injected into the nerve or the sheath surrounding it, severely damaging the nerve. Such cases emphasize the need to exercise extreme care in making injections. Pain radiating into the fingers when the first few drops of the solution are injected should be a warning that the needle is not in the vein and that the solution is being injected directly into a nerve or into the tissue surrounding it. Arsphenamin injected into or about a nerve may have a marked destructive action, causing extensive degeneration of neuraxes and the development of large amounts of scar tissue. The densely adherent scar which follows sloughing of the skin, if such occurs, may seriously interfere with or render unsatisfactory a nerve suture. — (*J. A. M. A.*)

Syphilis Largest Factor in Deaths of New Born.

That there is a direct relation between syphilis and an enormous waste of infant and child life is borne out by a number of studies made recently of thousands of obstetrical cases by child specialists and practicing physicians of this country. One of the most noteworthy of these is the study of four thousand consecutive cases by Dr. J. Whitridge Williams, of Baltimore. A report of Doctor Williams' findings shows that out of 302 foetal deaths, or deaths of the new born, which occurred in the 4,000 births, syphilis was responsible for 34.4 per cent. of the total number, and was the most important single cause of death. These figures, he explains, did not include the children delivered alive with hereditary syphilis, nor those in whom the disease developed later. The percentage of deaths due to syphilis would have been greater, he adds, had the mothers not received treatment for syphilis.

Another study of the relation of syphilis to the mortality of the new born, which agrees with Doctor Williams' report, is that made of 1,722 obstetrical cases by Dr. L. J. J. Commisky, of Brooklyn. He finds that of 215 deaths in 1,722 births, syphilis is also the chief cause, being responsible for 27.44 per cent. of the total number of deaths.

Further statistics which show that syphilis is an important cause of waste in infant and child life are those resulting

from a study of the hereditary transmission of syphilis under the direction of Dr. P. C. Jeans, associate professor of pediatrics of the Washington University School of Medicine in St. Louis. This investigation was made of the clinical findings in infants and children in a large group of syphilitic families and shows that the waste in child life from deaths of infants is over sixty per cent, as compared with less than twenty-five per cent. in a similar group of non-syphilitic families of the same social plane.—(*American Social Hygiene Association.*)

Specific Inhibitory Reaction of Cholesterinized Antigens in the Wassermann Test.

Hinton concludes that carefully selected cholesterinized antigens, when used with a suitable standardized hemolytic system, have a high specific inhibitory reaction and are superior to the plain extracts or artificially prepared lipoids.—(*William A. Hinton, Amer. J. Syph., Jan., 1921.*)

Blood and Cerebrospinal Fluid in General Paresis.

Levaditi and Marie report the findings in 29 patients with general paresis, examined repeatedly to determine the relations between and the fluctuations in the findings in blood and spinal fluid in respect to complement fixation, etc. They confirm the importance of the physical changes in the body fluids induced by the spirochetes.—(*C. Levaditi and A. Marie, Rev. de Méd., Paris, 1920, 37, No. 12.*)

Directions for Obtaining Blood for a Wassermann Test.

Dr. Leon L. Solomon, of Louisville, Ky., gives these directions:

1. Select a time preferably midway between meals.
2. Place a tourniquet—a gauze bandage or rubber tubing around the arm, above the elbow.
3. Select the most suitable vein in the forearm, just distal to the elbow.
4. Cleanse the skin over and adjacent to the site to be punctured with soap and water, and rub with alcohol.
5. With a clean, thoroughly dry, sterile 10 cc. Luer Syringe (a glass syringe), withdraw 6 to 8 cc. of blood; immediately empty same into a clean, thoroughly dry, sterile test tube; allow blood to congeal, after closing tube with a sterile cork.

The Physician's Library

Diseases of the Skin, by Oliver S. Ormsby, M. D., Professor of Skin and Venereal Diseases in Rush Medical College. Second Edition, 1,166 pages. Philadelphia: Lea & Febiger, 1921.

By rewriting the first edition the author has produced a book which is the equal of any in the dermatological field. Ormsby has not only drawn from his own very wide and unusually excellent experience, but has quoted cases and presented photographs of cases of many of his colleagues, which has added materially to the value of the text.

The general practitioner rightfully regards dermatology as an exceedingly difficult specialty and in consequence few practitioners have more than a bowing acquaintance with dermatological conditions. If the physician will study this work and compare the splendid photographs with cases which come to his attention he should have no difficulty in making a fairly accurate diagnosis of the commoner skin diseases. No man can be a good dermatologist who does not know the intimacies and intricacies of skin pathology, but Ormsby's book will be of material aid to the physician.

While the book is richly illustrated there are some common conditions which we believe should have been produced in photographs, such as impetigo, a condition often diagnosed incorrectly by practitioners.

Operative Surgery, by J. Shelton Horsley, M.D., St. Elizabeth's Hospital, Richmond, Va.; 721 pages. St. Louis: C. V. Mosby Co., 1921.

While one may impulsively say that in the making of books on surgery there is no end, there is a distinct reason for the production of this book, because the author has paid especial attention to what he terms in his preface 'the preservation of physiologic function and the interpretation of the biologic processes that follow surgical operations.'

It has been the cry that too many surgical operations are performed mechanically with little thought as to what may eventually happen as the result of surgical interference. Hors-

ley has built up his book around this most important factor and by so doing has presented a surgical work which is bound to compel the most careful consideration of operators.

The entire field of surgery is covered in the text and over six hundred illustrations of a most excellent character are reproduced, bringing out the effective points of the author's surgical procedure. The book may be regarded as a distinct addition to our surgical literature.

Meteorology, by Jacques W. Redway, F.A.M.S., 294 pages; New York: John Wiley & Sons, Inc., 1921.

It would seem from reading this book that weather prediction is comparatively easy and, if that be true, we are very glad to recommend it to the U. S. Weather Bureau. Those persons who have occasion to watch the weather and whose work depends on it have learned to look for fair days when the Weather Bureau predicts rain and vice versa. If Mr. Redway's book can be used by weather officials as a textbook perchance there will be a greater percentage of truthful predictions.

The author, one of the best-known scientists in the meteorological field, has, as is to be expected, produced a book quite in keeping with his high reputation. It will be of great value to students in meteorology and aeronautics and we believe medical men can go over this book with a great deal of interest and profit.

Refraction and Motility of the Eye, by Ellice M. Alger, M.D., F.A.C.S. Philadelphia: F. A. Davis Co., 1921.

This the second edition of this book carries out the same readable, easily interpreted style of the first edition and exhibits in addition many improvements.

The chapter on optics is an essential introduction to prepare the student for the following chapters on ophthalmoscopy and retinoscopy. The succeeding chapters are equally well written, those on color blindness and field of vision being especially practical.

A number of pages are devoted to the relation of functional eye diseases to general medicine which are extremely helpful to general practitioner and ophthalmologist, alike, and last but not least, are ten pages devoted to ocular malingering, wherein the author suggests very simple but effective means of throwing the patient off his guard to facilitate this examination.

The book from beginning to end is well executed and should prove of great value, especially to students of the specialty and to the family physician.

High Frequency Apparatus, by Thomas Stanley Curtis. New York: Norman W. Henley Pub. Co., 1921.

This is a small book which puts into practical language the design, manner of construction and application of high frequency apparatus so that one not over familiar with it may appreciate its meaning.

Its greatest interest is for one who "dabbles" in electricity and is desirous of manufacturing his own apparatus, as these descriptions are complete and relatively simple.

The author merely touches on the therapeutic use of the high frequency current, but deals more extensively with its use in spectacular productions.

It is an excellent book for the amateur, but is of little use to the physician unless he has the time and inclination to construct his own outfit, except for its explanation of what the high frequency current is, and how it is produced.

Syphilis. By Loyd Thompson, M.D., Hot Springs, Ark. Philadelphia: Lea & Febiger, 1920.

The second edition of this book is better than the first, as is to be expected. The author, who is one of our most competent syphilologists and syphilographers, has had opportunity to do much experimental work since the appearance of the first edition and his experience in the treatment of the disease has given him new ideas which have been brought out in this edition.

The outstanding feature of the book is the simplicity with which the subject matter has been presented.

The photographs illustrative of the text are unusually good and make it possible for the physician not particularly versed in syphilis to recognize various syphiloderms without difficulty. The practitioner who treats lues will do well to have a copy of this excellent book at his command.

Treatment of Acute Infections. By Frank Sherman Meara, M.D., Professor of Clinical Medicine in Cornell Medical College. Second Edition. 806 pages. New York: Macmillan Company, 1921.

The rewriting of this book has added to the value of what appeared to the reviewer to be an almost perfect book in its first edition. The author has taken advantage of the war and the recent epidemic of influenza to give us a great many valu-

(Continued on page 20)



CASEIN-CALCIUM

DIETETIC REMEDY
FOR
NUTRITIONAL DISTURBANCES
ESPECIALLY THE
DIARRHEAL DISEASES OF
INFANTS AND CHILDREN

MAKES THE PREPARATION OF A PERFECT ALBUMIN-MILK
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REPRINTS AND ABSTRACTS OF
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Mellin's Food . . . 4 level tablespoonfuls
Water (boiled, then cooled) . 16 fluidounces

To be given in small amounts at frequent intervals.

Each ounce of this mixture has a food value of 6.2 Calories and furnishes immediately available nutrition well suited to spare the body-protein, to prevent a rapid loss of weight, to resist the activity of putrefactive bacteria, and to favor a retention of fluids and salts in the body tissues.

MELLIN'S FOOD COMPANY,

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able observations in connection therewith. The epidemics of measles, streptococcus pneumonia and meningitis observed in camps have been studied at great length and many valuable deductions made. The review on the literature of the recent epidemic of influenza enables one to take up every feature of this condition.

Meara has given us more light on grip and on such conditions as encephalitis lethargica, trench fever, rat-bite fever, and Rocky Mountain spotty fever. One thing which will appeal to the reader is the short and snappy way in which the various diseases are handled. Meara has produced an exceedingly individual book. Every detail therein is practical and made applicable to the individual case. This book easily stands out as one of exceeding value to the practitioner.

Medical Electricity, Roentgen Rays and Radium. Medical Electricity, Roentgen Rays and Radium, with a practical chapter on Phototherapy. By Sinclair Tousey, M.D. Third Edition. 1337 pages with 861 practical illustrations. Philadelphia and London: W. B. Saunders Company, 1921.

This standard work has been greatly improved by the addition of much material of value. The changes in this subject have been so rapid that a new edition was absolutely essential. Among the new features is a thorough exposition of dental, and gastro-intestinal radiography. A chapter on physical reconstruction after war injuries, although short, is of value. Another very useful factor is the list of tables showing the correct time for exposure. Many good plates have been ruined by over or under exposure. The three main divisions of the book are general electricity, x-ray and roentgenotherapy, with the subdivisions which are essential. The third edition stands out, as have the two previous editions, as one of the very best expositions the medical profession has of an exceedingly useful and essential branch of medicine.

Diseases of Children. By Herman B. Sheffield, M.D. of New York. 798 pages, 238 illustrations. St. Louis: C. V. Mosby Co., 1921.

There are very many practical features in connection with this book and enough to make the publication of the book of moment. The author, whose experience is very wide, is an absolute stickler for proper diagnosis. He brings out every diagnostic factor we possess and shows his belief in the importance of such tests as to Schick, Widal, Wassermann and tuberculin. He also lays emphasis on the necessity for proper infant feeding. He differs from some writers who would make us believe that prepared foods are the proper foods for babies. Sheffield stands for breast feeding and insists on its continuance as long as possible. He also, unlike some other writers, believes that certain drugs are necessary in treating the ailments of infants, and he brings out their use in a clear manner. His observations on the congenital malformation of infants are very enlightening. In connection with respiratory disease he includes the defects of the nose, throat and ear, which is a classification differing from many pediatricians. Other subjects which are thoroughly treated are school inspection, amentia, the diseases of metabolism and diseases of the blood and ductless glands.

Maternity and Care of Babies. By H. N. Oliphant, M.D., Frankfort, Ind. Published by the Author, 1920.

This little volume is intended to help expectant mothers in taking care of themselves during pregnancy as well as in caring for the child later on. The book is simple and written so that anyone can understand it. Being of so practical a nature it should appeal to physicians as quite worth while placing in the hands of their pregnant patients.

Basal Metabolism Determinations.

The value of basal metabolism determinations in proving the pathogenic rôle of thyroid hyperactivity has been confirmed by additional experience. Probably more than 90 per cent. of all cases in which there is marked increase in metabolic rate are due to hyperthyroidism. G. W. McCaskey, Fort Wayne, Ind., believes that there is necessity for a warning against "subconsciously commercializing" the impressiveness of the method and the foisting on the profession of crude and inaccurate methods, by commercial "enterprise," which would inevitably bring discredit on this means of diagnosis. A new and simplified method of calculation is offered involving the use of a percentage table with which logarithms can be used if so desired, and the determination of a "constant," which materially shortens the process. Certain criticisms relative to the dangers of infection in the use of such an apparatus are considered. It is shown that by taking certain precautions which are obvious and obligatory in all medical and surgical work involving such questions there is no danger whatever from this source.—(J. A. M. A.)

Collecting Pus from Urethra.

Bureau Venereal Diseases, State Board of Health of Kentucky.

Dr. Leon L. Solomon, of Louisville, gives these directions for collecting pus from urethra of the male or female.

Examination for gonococci and other pathogenic bacteria:

- (1) First cleanse thoroughly around the meatus with fresh cotton saturated with soap water.
- (2) Carefully remove the soap water with fresh cotton saturated with clean water.
- (3) Dry the parts with fresh clean cotton.
- (4) Gently expel from the urethra of the male, or obtain from the urethra of the female, some pus against a clean glass slide.
- (5) With a second glass slide make a thin smear of pus on a glass slide.
- (6) Allow this smear of pus to thoroughly dry on glass slide.
- (7) Prepare two such smears of pus on each of two glass slides.
- (8) When the smear is entirely dry, place the two slides with the smear surfaces in apposition to each other, being careful that they do not rub against each other.
- (9) To avoid their rubbing a piece of adhesive plaster may be fastened to the end of each of the two glass slides. The adhesive plaster will keep the two smeared surfaces from coming in immediate contact.

Directions for obtaining pus from the vagina and cervix:

- (1) Thoroughly cleanse the external parts so as to avoid contamination with extraneous bacteria.
- (2) Separate the labia and carefully introduce a clean probe (wood or metal), the end of which is wrapped with some clean (sterile) cotton. Make a thin smear on two slides allowing the same to dry and properly protecting the dry smears, as in the above directions for collecting pus. You are asked to carefully read the directions.

Broncho-Pulmonary Spirochetosis.

The occurrence of broncho-pulmonary spirochetosis is comparatively rare. This circumstance, together with the peculiar characteristics of the disease, makes it a particularly individual problem. The victims of this disease are apparently suffering from tuberculosis. They have recurring hemoptysis for months. Usually chronic bronchitis, with loss of weight, emaciation, and a chronic cough ensue. Hemorrhages sometimes last for weeks and then may stop for weeks. These cases are not tuberculosis, however, for upon examination of the sputum no tubercle bacilli are found, but large numbers of motile spirochetes. Bloedorn and Houghton in a report of three cases found that these organisms are more refractive and active than the *treponema pallida*, and that they tended to be of two distinct types. One type was thin, delicate, and threadlike, with more regular and numerous undulations; the other type was coarser, with few undulations and heavier staining.


There has been little investigation made upon this disease. Castellani first described it in 1906. Since then there have been reports of cases occurring for the most part in the tropical climates. It is probable that the disease is more common in the United States than is realized, but because of its close symptomatic resemblance to tuberculosis, it is seldom recognized until the sputum is examined and the characteristic organism identified. Cases respond to treatment with the arsenamines very readily. There have been cases which when treated for tuberculosis were considered hopeless, but when treated with arsenphenamin, have recovered completely.

In view of the fact that this disease is more prevalent than is realized and that it does not respond to treatment, it is important that every case of supposed tuberculosis that does not show tubercle bacilli in the sputum should be carefully examined for spirochetosis and syphilis. Prompt and intensive treatment with arsenphenamin may be expected to produce well-nigh miraculous results.

Effect of Intravenous Administration of Arsenphenamin and Neo-arsphenamin and Mercury.

Strickler, Muson and Sidlick (J. A. M. A., November 27, 1920), experimented on 30 patients with negative reaction and negative history. Following the intravenous injection 66 per cent. gave a positive Wassermann reaction. One must realize, however, that satisfactory criteria of the absence of syphilis in patients of a general clinic are difficult to obtain.

Kolmer and Pearce (J. A. M. A., December 25, 1921) did practically the same experiment except that rabbits were used, thus excluding the possibility of syphilis and a provocative reaction. The results were uniformly negative, a positive Wassermann reaction not being produced in any animal of any series.—(J. A. M. A., May 28, 1921.)



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Operative or accidental wounds heal rapidly under a Listerine dressing, as its action does not interfere with the natural reparative processes.

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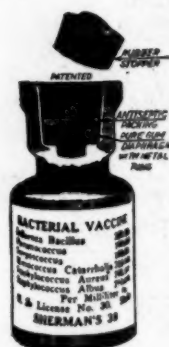
Administered in advanced cases of respiratory infections, they usually ameliorate or abbreviate the course of the disease. Even when used as the last desperate expedient they often reverse unfavorable prognoses. **SUCCESSFUL IMMUNOLOGISTS MAKE INOCULATIONS IN RESPIRATORY INFECTIONS AT THEIR FIRST CALL.**

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10 mil. Container

Concerning the Localization of the Bladder Function in the Brain Cortex.

The frequent occurrence during the war of skull wounds with injury of the cortex has thrown new light on the problem of the cortical innervation of the bladder, says Adler.—(*Neurol. Centralbl.*, Oct. 1, 1919.)

Two diametrically opposite views are entertained as result of these observations; one that the bladder center is to be localized in the lobulus paracentralis, in the immediate vicinity of the leg center; the other that it is to be localized in the motor region of the hip center between the arm and leg center. The researches of the writer lead him to the conclusion that in the cortex there is one center for the voluntary inhibition of micturition and another for the voluntary emptying of the bladder. The writer cites two cases where, after wounds in the parietal region, the patients were unable to empty the bladder through voluntary relaxation of the sphincter internus, and where there was, in consequence, a regular breaking through of the urine.

Comparing these two cases with cases cited by Pfeifer in which there was retention of urine, the author comes to the conclusion that the retention of urine was caused by a spastic contraction of the musc. sphincter externus as result of a lesion in the cortical center controlling this muscle, situated in the motor region in the vicinity of the hip center, between the arm and leg centers. In the author's cases there were phenomena of incontinence produced by spastic conditions which affected the musc. sphincter internus. These spasms affecting the internal bladder sphincters are a result of an injury of the cortical center which controls this sphincter situated in the immediate vicinity of the leg center in the lobulus paracentralis. In the first type of cases the center of inhibition is in a condition of stimulation, the contractions of the sphincter externus last too long and cannot be controlled and as a result the passing of the urine is prevented. In the second type, it is the center for emptying the bladder which is in a condition of stimulation, micturition begins too quickly and the impulse is too urgent, so that it cannot be inhibited. The author therefore draws the conclusion, first that there is a center for the M. sphincter externus in the region of the hip center, between the arm and leg centers for the voluntary retention of urine in the bladder, or for the interruption of its flow, and, secondly,

that there is a center for the M. sphincter internus in the region of the leg or foot center for the express voluntary voiding of urine at the time convenient for the individual.—(*Jour. Ner. & Ment. Dis.*)

Trachoma.

Trachoma is a reportable disease in many states. John McMullen, Louisville, Ky., says that surveys in numbers of states have been made by the Public Health Service, and trachoma has been found to be prevalent in many. A number of states have taken up the trachoma problem and appropriated money to combat the disease. In co-operation with the several states, free trachoma hospitals have been established in Kentucky, Virginia, West Virginia, Tennessee and North Dakota. An eye specialist is in charge, and a corps of trained nurses are on duty in each of these hospitals. In addition to these hospitals, field clinics have been conducted in these and a number of other states. The results have been exceedingly satisfactory. About 9,000 cases of trachoma have been treated at these hospitals, the ages of the patients varying from infancy to old age. The number of hospital cases does not include the field clinics. Eighteen field clinics have been held during the last seven months; 825 operations were performed, 559 under general, and 266 under local anesthesia.—(*J. A. M. A.*)

Splenectomy in Splenic Anemia and Banti's Disease.

William J. Mayo, Rochester, Minn., says that up to January 1, 1921, 249 spleens were removed in the Mayo Clinic for all causes, with a mortality of 10 per cent. Seventy-one were for splenic anemia of unknown origin, with nine deaths. In addition, splenectomy was performed in thirty-eight cases for splenic anemias of unknown origin. Eleven spleens which had become greatly enlarged in the course of chronic general sepsis following septic arthritis, tonsillitis, phlebitis, and osteomyelitis, were removed, with three deaths in the hospital. The other patients were cured or greatly benefited. In six cases of splenomegalia due to chronic syphilis, the spleen was removed, with one death in the hospital. Eight spleens were removed for splenic anemia in children and von Jaksch's disease, without an operative death, and when the condition has not been too advanced, cure has followed. In performing splenectomy in the Mayo Clinic, the technique of Balfour is employed.—(*J. A. M. A.*)

Many People Are Fried Into Bad Health with Animal Fats

Animal fats, because of their low smoking point, "decompose" into other than their natural fatty acids and glycerine.

They develop acrolein and other products, irritating to the stomach and intestines.

This favors under-oxidation—especially of the end products of proteid digestion—and stand in *loco parentis* to a whole hatful of trouble.

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Mazola is a pure vegetable oil—already fluidified—and therefore more readily digested than fats that melt only at relatively high temperatures.

Also, Mazola stands a high degree of heat before the smoking point is reached. So it is not nearly so likely to develop acrolein or other oxidation products harmful to the digestive mucosa.

Try this suggestion on a half a dozen of your patients suffering

from digestive or under-oxidation troubles, and see how much better they will be in a short time.

Many physicians are also recommending the liberal use of Mazola as a salad oil, to increase heat-energy in patients with malnutrition, or who need a palatable, easily-assimilated, protein-sparing food.

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Resistance to Tuberculosis.

H. J. Corper, Harry Gauss, and O. B. Rensch, Denver, believe that carbon dioxide may play a significant rôle in the resistance to tuberculosis. Three per cent. carbon dioxide inhibits the growth of tubercle bacilli in the test tube, and 15 per cent. is tuberculoid. Cultures of tubercle bacilli buried in the tissues of animals and permitted to acquire the carbon dioxide concentration of the body are definitely inhibited in their growth, while other cultures similarly buried, except that ingress of atmospheric air is permitted, show no inhibition. This reopens the consideration of the influence of fatigue, exhaustion, exposure, metabolic diseases, etc., as probably etiologic factors in the causation of tuberculosis in view of their ability to alter the carbon dioxide content of the body.—(J. A. M. A.)

Poliomyelitis Treatment.

By waiting for the acute phase to be over and then giving hypodermic injections of strychnin plus application of electricity, Vidal and Ayguavives are able to avert muscle atrophy (*Arch. d. Gynecol. Obst. y Ped.*, Aug., 1919). The child's susceptibility to strychnin is tested with a preliminary dose of 0.25 mg. This is increased by the same amount until the child is getting 1 mg., which is kept up for five days if no trismus has appeared after the first dose. They give 0.5 mg. and increase in a week to 1.5 mg. at the seventh day. This is kept up for ten days if no signs of intoxication are evident. The drug is suspended for two weeks the twenty-third day, but the electric sittings and massage are continued. It is then resumed. Of two cases described, one, a child of 3, is now walking well after 125 injections; the other, not quite 2, shows great tendency to improvement after six months of the faradic current, with subsequent galvanic sittings, and injections of strychnin.—(*Jour. Ner. & Ment. Dis.*, Sept., 1920.)

Diphtheria Prevention.

It is a well-known fact that the greatest morbidity and mortality from diphtheria occur in the pre-school period of childhood. It is also obvious that these young children are dependent, in a large measure at least, for their exposure upon the school child in the family who carries the diphtheria germ home.

The opening of public and private schools in the early fall is frequently followed by outbreaks of diphtheria of a more or less epidemic character in almost every community. In twenty-five years of service, Diphtheria Antitoxin has proved its incomparable value. It is one of the few unqualifiedly successful specific. So long as we have diphtheria, it is the most efficacious remedy that we have for the treatment of the disease and for the protection of immediately or constantly exposed susceptibles. But the circumstances of general practice, of which perhaps the carelessness of the parent in calling a physician in cases of sore throat is the most important, offer limitations to its prompt and efficient administration. So while diphtheria antitoxin has reduced the diphtheria death rate as much as 75 per cent., it has not materially lowered the case incidence. As valuable as it is, the attainment of ideal results with it is not possible.

In view of these limitations, it is indeed most fortunate that the efforts of scientists have been rewarded in finding a way to prevent diphtheria entirely if its application can be generalized.

The family physician has a large part in bringing about this use, since most of the children of our land are to be found in the private homes. He should, therefore, lose no opportunity to impress upon the parents of his clientele the necessity for taking advantage for their children of the harmless Schick Test for determining susceptibility to diphtheria and Diphtheria Toxin-Antitoxin Mixture (T-A) for active immunization of the Schick positives. Science has given us all the weapons with which to eradicate this scourge of childhood. The practical results in hospitals, child-holding institutions and in many public schools have established the value of these agents. The reports from their use are concordant in attesting their harmlessness and dependability.

It becomes the duty of physicians as well as health officials and school nurses to see to it that it is not ignorance of the benefits to be derived from this principle of diphtheria susceptibility and of protective treatment, but rather the inertia of the public in not permitting them to be carried out, which is responsible for the continued existence of this disease.

Eli Lilly & Company calls the attention of our readers to the fact that they have prepared a most comprehensive and instructive booklet for physicians on the Schick Test and Diphtheria Toxin-Antitoxin Mixture, which will be supplied upon request.

The Lilly Schick Test, Diphtheria Toxin-Antitoxin Mixture and Diphtheria Antitoxin are supplied through the drug trade, properly stored, fresh and potent.

Familial Neurosyphilis

Joseph Earle Moore and Albert Keidel, Baltimore, present in summary the results of the examination of the marital partners of fifty neurosyphilitic patients. Fifty-two partners (forty-two wives, two mistresses and eight husbands) were examined by physical and serologic methods. In most instances, both the original neurosyphilitic patient and his partner were examined personally. In the fifty families, the type of neurosyphilis in the original patient was paresis, twenty-one times; tabes, eight times, and cerebrospinal syphilis of various types, twenty-one times. Of the twenty-two partners of twenty-one paresis, sixteen, or 72.7 per cent., had syphilis. Of these syphilitics, eleven, or 68.7 per cent., were neurosyphilitic. Six of the eight partners of tabetics had syphilis, and four of these had neurosyphilis. In the group of meningovascular neurosyphilitics, eighteen, or 81.8 per cent. of twenty-two partners, had syphilis; but of these, only six (33.3 per cent.) were neurosyphilitic. Of the whole number of fifty-two partners, forty, or 76.7 per cent., were syphilitic, and of these, twenty-one, or 52.5 per cent., had neurosyphilis. Conjugal neurosyphilis was observed in twenty-one instances. The type was similar in both partners eight times. In seven instances, neurosyphilis was asymptomatic in the marital partner, and was detected only by routine examination of the cerebrospinal fluid. The duration of marriage, and of syphilis in the syphilitic, was about twice as long in the group of parenchymatous (paresis and tabes) neurosyphilis families as in the group of meningovascular syphilis. In two-thirds of the syphilitic partners of parenchymatous neurosyphilitics, the course of syphilis had been latent. Only one-third of the partners of meningo-vascular neurosyphilitics showed this latency. The applicability of the results of this study to the theory of a neurotropic strain of *Spirochaeta pallida* is discussed.—(J. A. M. A.)

Acute Postoperative Dilatation of Stomach.

Acute postoperative dilatation of the stomach, Emil Novak, Baltimore, states is an important and dangerous surgical complication which is probably less infrequent than is generally believed. Its very recognition is of vital importance to the patient, for on it, to a large extent, depends the success of treatment. The use of the stomach tube is the most important means or diagnosis. Especially important is the differentiation between gastric dilatation, on the one hand, and peritonitis or post-operative ileus, on the other. Dilatation of the stomach is a frequent concomitant of peritoneal infection. The evidence points strongly to gastric paralysis as the immediate cause of the dilatation. In the primary cases, such as those occurring during operation, the gastric paresis is explainable as a simple reflex. In the secondary cases, the dilatation is the result of septic factors, although it is possible that occlusion of the upper intestine may in rare cases be the primary factor. The two important therapeutic measures are gastric lavage and the postural treatment advocated by Schmitzer. The latter is incorrect in theory, but often successful in its results. There is no place for operative measures in the treatment of acute postoperative dilatation of the stomach. Ten cases are reported.—(J. A. M. A.)

Management of Pleural Effusions in Therapeutic Pneumothorax.

The immediate effects of serous effusions occurring during pneumothorax treatment are usually beneficial; but ultimately they cause premature re-expansion of the lung and obliteration of the pleural cavity. Wherefore Barnett P. Stivelman and Joseph Rosenblatt, Bedford Hills, N. Y., consider it unwise to discontinue the treatment and adhere to the dictum of "leave effusions alone." Small, transitory effusions which do not alter the intrapleural pressure require no special attention. Moderate effusions which do not displace the mediastinum and do not interfere with the continuation of the pneumothorax need not be aspirated, but the pneumothorax should be continued with increasing intrapleural pressure to prevent obliteration of the pleural cavity. Large effusions should always be aspirated and replaced by air and the pressure regulated according to the needs of the individual case. Purulent effusions should always be aspirated and replaced by air, not only because of their toxicity, but also on account of their tendency to produce extensive adhesion formation and obliteration of the pleura.—(J. A. M. A.)

Injuries of Feet.

U. V. Portmann and F. C. Warnshuis have observed that the reaction to foot injury is different from the reaction to injury to other parts in that there results an unusually long period of disability quite out of proportion to the type or severity of traumatism. They consider certain points that must be understood and appreciated to develop an effective method of treatment.—(J. A. M. A.)

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New Method for Recovering Rubber Tube Lost in Pleural Cavity.

Frank Holyoke, Holyoke, Mass., says that if the patient is made to lie on the sound side of the body with the operation wound uppermost, and through this wound the pleural cavity is slowly flooded with a warm sterile or physiologic sodium chlorid solution, the rubber tube will float to the surface, accelerated all the more by the act of respiration, and at the open wound may be easily removed.—(*J. A. M. A.*)

The Benzyl Treatment.

Benzyl Benzoate, suggested by Macht, of Johns Hopkins University, often serves effectively as a substitute for opiates with or without atropine. It lowers the tonus of smooth muscle tissue and inhibits contractions, thus relieving the pain or dyspnea resulting from these causes. In this way it affects the uterus, intestine, gall-bladder, bronchial rings, etc.

In general, it is useful as a remedy in spasmodic conditions, as dysmenorrhea, for example. In this ailment the drug is said to be effective in about 80 per cent. of the cases treated. It is also being used with good results in colicky conditions, especially biliary cases; also in dystenry, whooping-cough, asthma, hypertension from arterial spasm and the persistent hiccup common in infants. The very latest use to which it has been put is for relief of after-pains during labor.

The ester has a disagreeable taste which, however, is covered in the elixir put out by The Abbott Laboratories, Chicago; this is quite palatable. The same chemists supply tablets of the drug if preferred. The dose of the elixir is from 20 drops to 2 teaspoonfuls well diluted with milk or water. Benzyl Benzoate is a safe anodyne even for children.

Venereal Disease Clinics: Their Organization and Function.

By provision of adequate treatment we may hope to prevent the spread of the so-called venereal diseases by curing or at any rate rendering non-infectious the largest possible number of infected individuals, says T. F. Ritchie.

Situation: Many authorities think it advisable for the clinic to be a part of a general hospital or dispensary. However, clinics dealing entirely with venereal disease have been very successful.

Waiting Room: There should be separate waiting rooms for men and women. Pamphlets should be provided.

Hours of Attendance: These should be arranged to suit the convenience of the workers.

Treatment Rooms: It is imperative that arrangements for efficient treatment shall be as convenient as possible, otherwise the cost in salaries and wages would be prohibitive. Treatment rooms should be arranged so as to give a maximum amount of privacy to the patient undergoing treatment. This may be secured in various ways; for instance, by the use of curtains, screens or partitions. They should be supplied with means for carrying out dark field examination and examination of smears.

Equipment of Treatment Rooms: A comprehensive list given.

Records: Clear, simple, accurate records of treatment are indispensable.

Follow-up Work and Social Service Workers: Control of patients is necessary to obtain regularity of attendance. Every patient offers an opportunity for social and moral rehabilitation.

Laboratory Facilities: Services of well equipped laboratory must be at the disposal of the clinic for Wassermann tests, culture tests, etc.

Personnel: Much of the success of a clinic depends on the capabilities of the personnel. When there is an enthusiastic and capable medical officer in charge, the clinic will continue to grow notwithstanding other difficulties. The services of a trained nurse are necessary.

Financial Arrangements: In England, Ministry of Health gives a grant in aid of 75 per cent. of total costs incurred in approved schemes of treatment. In the United States each State receives aid on appropriating an equivalent amount of money. In Canada, the Dominion Government gives a subsidy to the provincial governments who find an equivalent amount. In Belgium the government provides free treatment at dispensaries and clinics, and recompenses private physicians who will undertake the treatment of necessitous patients. In France the government undertakes to reimburse the expenses of free treatment for venereal disease at clinics under certain conditions.

Treatment of Gonorrhea at Clinics: Examination of clinic records show that many patients suffering with gonorrhea do not apply for treatment. Hence education regarding the seriousness of gonorrhea is required by the general public. Improved method in treatment also needed.—(*Inter. Jour. Pub. Health*, May-June, 1921.)

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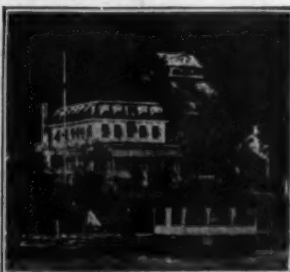
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He is a graduate of the Alfred University, Alfred, N. Y., and Rush Medical College, Chicago. He has been closely associated with The Abbott Laboratories for over seventeen years, and for the past six years has been vice-president and assistant general manager.

Syphilis as an Etiologic Factor in Nodular Cirrhosis of the Liver.

L. J. Owen deals with the type of cirrhosis which has been known variously as Laennec's, atrophic, nodular, and alcoholic cirrhosis. Gives clinical and anatomic findings of nineteen autopsies. To obtain data 1,200 autopsies were reviewed. It was found that 8.5 per cent. of all adults had cirrhosis of the liver, and of these 80 per cent. were of the nodular type. The author concludes, the frequent association of syphilis with

nodular cirrhosis of the liver (present in 40 per cent. of 19 instances) indicates that it is an etiologic factor in the production of the hepatic lesion.—(Amer. Jour. Syph., January, 1921.)

Intracranial Birth Trauma of the New-Born.

The information at present available concerning the causation of traumatic intracranial birth injuries, Hugo Ehrenfest, St. Louis, states makes it incumbent on every physician attending women in labor, to accept these principles: During forceps and breech extractions all excessive and brusque compression of the head must be avoided. Special caution must be applied in managing premature labors. All violent manipulations must be eliminated in the resuscitation of asphyxiated new-born infants. The diagnosis of an existing intracranial injury should be made at the earliest moment. Whenever such an injury is even only suspected, the clotting time of the infant's blood must be ascertained and a spinal puncture performed, both as a diagnostic and as an early therapeutic measure.—(J. A. M. A.)

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The Control of Hemorrhage.

In cases of hemorrhage not amenable to surgical procedure the chief aim is to promote blood-coagulability. Hemostatic Serum, it is believed, affords the most effective means for the attainment of the desired object. In fact it has been said upon good authority that Hemostatic Serum is the only product which provides all of the factors essential to furthering coagulability of the blood.

Severe hemorrhages due to defective blood-coagulation may result from an actual deficiency in prothrombin, or from an excess of antithrombin. Hemostatic Serum is indicated in either event. It will supply any deficiency in prothrombin or thrombokinase, besides counteracting excessive antithrombin.

Hemostatic Serum may be administered systemically by hypodermic or intravenous injection, in 2-cc. doses, repeated two to four hours as the urgency of the case may require. A small pledget of cotton saturated with a few drops of Hemostatic Serum may be applied to the bleeding point. If the patient is a hemophiliac, or is likely to have prolonged or profuse bleeding, the intravenous use of Hemostatic Serum as a prophylactic measure, before any surgical operation is attempted, seems to be indicated.

Modern Medicine and Public Health.

A plea for the establishment by medical colleges of the degree of Doctor of Public Health in addition to that of Doctor of Medicine is voiced by Assistant Surgeon General W. T. Sedgwick of the U. S. Public Health Service, in a lecture recently reprinted by the Service.

Dr. Sedgwick points out the low standards of medical colleges in the seventies. The school terms were only about four months; no examinations were held until the end of the second year, and then they were short and easy. Chemistry and physiology were taught by lectures, without laboratory work. "I shall never forget," says Dr. Sedgwick, "my regret that I was born too late, for I gathered from my textbook and teacher that everything in physiology was known. . . . and that there was nothing to be discovered."

After referring to the marvelous colleges of today, Dr. Sedgwick points out that even the best still neglect the field of public health. Yet today there are forty-eight state departments of public health, which require at least 150 experts

in public health and sanitary science. The U. S. Public Health Service finds great difficulty in getting the scores of qualified health officers it needs. The army and navy and hundreds of counties, cities, towns and rural regions need whole-time trained health officers. Private agencies, such as the Rockefeller Foundation and the Red Cross, cannot get competent personnel. Men trained in industrial, school, mental, social and dental hygiene are all badly needed.

Dr. Sedgwick urges that the present medical curriculum should be split at the end of the first two years. One line should stay as it is, but from it another line should branch off, which should treat of preventive medicine, vital statistics, sanitary science, laboratory methods in epidemiology, municipal sanitation, preventive hygiene and so on. "The medical school," he ends, "that neglects this is sending out its graduates unprepared for some of the most serious problems they will have to face."

High Blood Pressure in War Gassed Cases.

A physician writes:

"I do not know but all the rank and file in the medical profession have already found it out, but it is a new discovery to me, though the telling of it may be greeted with a chorus of 'Knew that before!' It concerns Thrush's Pulvoids of Compound Natrium. In the first place it is formulated admirably, and is pharmaceutically well made. Any one could get together the bicarbonate and nitrate of soda with the nitrate of potassium, and thereby make up a remedy for high blood pressure, but in this case crataegus is happily added, and crataegus is a tonic to the heart and blood vessels. And it is certainly indicated. Now the profession does not need to be told by the French medical press that the most serious high blood pressure is that which occurs in those who were gassed in the war. Such cases are very difficult to treat successfully, but this is a remedy that gives most satisfactory results. It is in no way extravagant to say that it seems to be made purposely for such cases. It reduces the blood pressure readily, and—without embarrassing sequelae. I call that a discovery."

Pulvoids No. 373 Natrium Compound s. c. green with special coating are manufactured solely by the Drug Products Co., Inc., Meadow Street, Long Island City, N. Y., who will gladly furnish authoritative literature upon request.

A Psychological Study of Motion Pictures in Relation to Venereal Disease Campaigns.

Lashley and Watson report the findings of the Board, appointed by the Interdepartmental Social Hygiene Board for the purpose of studying the "effect upon the public of certain motion picture films used in various campaigns for the control of venereal diseases." The observations and experiments reported have been restricted chiefly to a study of the film "Fit to Win" in the revision for civilian use. The picture has been shown experimentally to about 4,800 people, 1,200 questionnaires have been received from them and tabulated, these have been controlled by personal interviews with nearly 100 men.

Only two important after-effects upon behavior have been demonstrated. A few individuals are stimulated to active interest in sex-hygiene campaigns. A small number of men seek medical advice. The effectiveness of the picture thus seems to be limited to conveying information concerning venereal diseases. While the dramatic portions of it do no harm, it is doubtful if they contribute in any way to its educative value, or add to the interest which the facts presented have for the audience.

Authors' conclusions are as follows: The material can be presented more fully in pure expository form and will so escape many of the difficulties which attend the construction of the film story. There is need for more detailed and accurate information. The treatment should be made as elementary as possible, but the popularizing of the material should not entail any relaxation of the scientific attitude. There is need for investigation of popular misconceptions concerning venereal disease and for the preparation of data which will correct these. Films of the type "Fit to Win" are not adapted for use with adolescents, and it is doubtful if any motion picture will ever be as satisfactory here as other educational methods. The most promising sphere of usefulness for motion pictures would seem, therefore, to be in building up a public opinion which will favor the utilization of other educational methods which can be better adapted to the individual needs of children and adolescents.—(*Social Hygiene*, April, 1921.)

The Spirocheticidal Value of Disodium Ethyl Arsinat (Mon-Arsone).

Major Nichols, U. S. Army, summarizes:

1. Disodium ethyl arsinat, or mon-arsone, tested on rabbits infected with syphilis shows no spirocheticidal power. The tissues are fatally poisoned as soon as or before the spirochetes are affected.

2. For its practical use in syphilis there is no such germicidal basis as exists in case of the arspenamin group.—(*J. A. M. A.*, May 14, 1921.)

Questionnaire on the Segregated District.

Three years ago the segregated district seemed too firmly entrenched in the large cities of the country to be ever dislodged. Today, according to data collected by the U. S. Public Health Service, it has few friends. A questionnaire, sent to the mayors of all large cities with duplicates for reference to prominent men and women citizens and chiefs of police brought 554 replies from 212 cities. The answers to the first three questions, which asked substantially whether houses of ill-fame, in and out of segregated districts, should be tolerated were from 80 to 90 per cent. in the negative. Those to the fourth and fifth questions, which asked whether both the woman and the man should be examined medically and placed under surveillance if found infected were from 72 to 78 per cent. in the affirmative. Of the 110 to 86 chiefs of police who answered most of all the questions from 89 to 100 per cent. voted "right."

Treatment of Furunculosis in Infants

The general impression obtained by Clifford G. Grulee and Cassie Belle Rose, Chicago, as to the results of roentgen-ray treatment in cases of furunculosis in babies has been, on the whole, favorable; but their series has been too small to draw any definite conclusions as to the ultimate results as compared with other methods of treatment. They believe, however, that the results so far have shown that it is better to use a soft ray and no filter. These lesions are very superficial, and therefore easily reached, and hard filtered rays have produced epilation, even with short exposures, and may therefore be considered too dangerous to recommend in the treatment of superficial skin lesions in children. When the process has been very superficial and over an extended area, the results have been most gratifying. The authors therefore believe that the proper use of the roentgen ray may add materially to the efficacy of treatment of furunculosis in babies.—(*J. A. M. A.*)

Hospital Patients

in most cases require an enema before going on the operating table. In many cases PLUTO Water prescribed night and morning is most agreeable to the patients and produces the desired results as it is natural and definite in action and prompt and positive in results.

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Internally—One-half to a teaspoonful of Dioxogen well diluted, stops fermentation, gastric irritation and pain at once.

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Radium.—C. J. Broeman, of Cincinnati, says radium was discovered in 1898 by Madame Curie. It is extracted from a number of radio-active ores, and there are now in existence about three ounces. The radium used therapeutically is not the element itself, but one of its bulkier salts, or a gaseous emanation. There are three kinds of radium rays, but the Gamma having a selective action upon the diseased cells, is the most important in medical work.

Plaques, tubes and needles are used to convey the element to the point of application. The application is painless, and is usually followed by a reaction, sometimes severe and very painful. Much skill and judgment on the part of the operator are necessary to make this reaction as mild as possible.

1. The author calls attention to the fact that the popular impression that radium treatments are very expensive is far from the truth. The patient saves considerable time and money because no extended sojourn to the hospital is necessary. There is very little interruption to his or her regular duties. Treatments are painless and there is no period of convalescence.

2. Radium is the ideal treatment for all forms of basal-celled epithelioma and for prickly-celled epithelioma if seen early enough, and no glandular involvement is present.

3. In carcinoma of the lip it is the treatment of choice when the case is seen early.

4. Radium is to be preferred in certain uncomplicated cases of uterine fibroid and bleeding.

5. Radium should be universally used in cancer of the cervix and inoperable cancer of the body of the uterus.

6. In all forms of inoperable cancer it relieves pain and hemorrhage and lessens discharge.

7. Radium is to be preferred to the X-ray in cases of goiter because of its exact dosage, deeper penetration and ease of application.

8. It is the preferred treatment in tuberculous adenitis and vernal or spring catarrh, while in certain systemic diseases, such as splenomedullary leukemia, pernicious anemia and Hodgkin's disease radium therapy has proved beneficial.

9. In dermatology radium improves and eradicates many heretofore stubborn and incurable dermatological conditions among which may be mentioned angioma, lymphangioma, keloids lupus erythematosus and vulgaris, chronic eczema of the mucous membrane of the lips, warts, syphilis vulgaris, intractable puritis, localized eczema, leucoplakia, extensive hypertrichosis and other skin affections.

10. From my own experience I feel justified in affirming that radium is here to stay, and that the physician who is not willing to recognize its value in medical science is simply refusing to read the handwriting upon the wall.—(*Kentucky State Medical Journal*, June, 1921.)

Vacation Time at Drug Products Company Plant.

The Drug Products Co., Inc., pharmaceutical chemists of Long Island City, N. Y., has sent a notice to its customers announcing the brief closing of their plant. The notice reads in part:

"Our desire to give every one in our employ a vacation can only be realized by your co-operation. The most efficient manner of doing this is by designating a specific time when the entire plant, including the office and laboratories may close, for these are co-ordinating departments, one depending upon another. The time decided upon is from Saturday Aug. 27th to Tuesday Sept. 6th. Therefore we take the liberty of suggesting that you anticipate your requirements for that period of our vacation."

Abortion of Syphilis.

Levy-Bing and Gerbay discovered that the Bordet-Wassermann appeared always after a certain interval from the hour of contagion. If abortive treatment is pushed before this date it has every prospect of success, but after this date, treatment may retard the appearance of the positive reaction, but does not prevent its becoming positive sooner or later. This interval is 37 days long counting from the hour of infection.—(*Médecine*, Paris, November, 1920.)